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WAKE FOREST JOURNAL OF BUSINESS  
AND INTELLECTUAL PROPERTY LAW

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VOLUME 16

SPRING 2016

NUMBER 3

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**HAS GPS MADE THE ADEQUATE ENFORCEMENT OF  
PRIVACY LAWS IN THE UNITED STATES A LUXURY OF  
THE PAST?**

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## ABSTRACT

In today's society, nearly everyone uses a piece of technology that allows them to be tracked by a Global Navigation Satellite System and rarely do we even consider the ramifications of using these devices. When a person uses an iPhone to get directions via Google Maps they may not realize that while they are gaining information from the website, they are also allowing their movements to be tracked. It may seem like only a paranoid person would worry about being tracked when they are going from their house to work, but the fact that there has not been a line drawn between what tracking information the government may or may not use against you creates a serious problem. This paper argues that due to the increasing use and development of the Global Positioning System's ("GPS") tracking abilities, the government must make it a priority to develop new privacy laws and clarifications. Because most of the privacy laws and amendments were created decades before GPS technologies existed, there is a clash between tracking and privacy that is difficult for the courts to decide without updated laws.

This paper begins with an introduction of Global Navigation Satellite Systems and the Global Positioning System. The historical section of the paper gives an overview of the Soviet Union's attack on Korean Air 007 and its importance on the future use of GPS by civilians. Next, this paper thoroughly explains the complex technologies involved in GPS tracking. The fourth section summarizes the three main parts of the United States Code that apply to GPS and the U.S. Space-Based Positioning, Navigation, and Timing Policy. Fifth, the paper discusses where privacy laws conflict with certain uses of GPS tracking, which leads into the in depth review of the leading case in this area, *United States v. Jones*. Finally, this paper concludes with a summary of current, proposed legislation on this topic and suggestions for future legislation.

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*“Historically, privacy was almost implicit, because it was hard to find and gather information. But in the digital world, whether it’s digital cameras or satellites or just what you click on, we need to have more explicit rules.” – Bill Gates, Founder of Microsoft<sup>1</sup>*

## I. INTRODUCTION

Global Navigation Satellite Systems (“GNSS”)<sup>2</sup> have changed the world as we know it. Forget the days where you could easily go unnoticed; now nearly every piece of technological equipment that we use has a way of tracking you embedded in it. Many people easily forget that the phone in their pockets or the Apple watches<sup>3</sup> and Fitbits<sup>4</sup> on their wrists, are not only providing the main services customers expected them to provide, but are also tracking the users. Recently, a woman in Pennsylvania went to police and claimed she had been raped.<sup>5</sup> What she likely did not realize when she made this claim was that her Fitbit’s GPS tracking data would be used to substantiate or disprove her claim.<sup>6</sup> In her story to police, the woman claimed she had been sleeping; however, her Fitbit showed she was active and awake the whole night.<sup>7</sup> This data was then used when the government charged the woman with knowingly filing a false report.<sup>8</sup> This is only one of the many cases yet to come where GPS tracking evidence can be used to help or hurt a legal case.

The Global Positioning System (“GPS”) has positively impacted the economic sector by allowing increased productivity in areas such as mail delivery and farming.<sup>9</sup> The GPS has been vital in enhancing the United States’ military operations and therefore improves national security as a whole, while keeping the country competitive with other nations using GNSS.<sup>10</sup> The transportation sector has also been greatly

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<sup>1</sup> SHAUN GREEN, *INSIDE THE MIND OF BILL GATES* 42 (CreateSpace Indep. Publ’g Platform, 2005).

<sup>2</sup> Margaret Rouse, *What Is GNSS (Global Navigation Satellite System)?*, TECHTARGET, <http://searchnetworking.techtargt.com/definition/GNSS> (last visited Feb. 22, 2016).

<sup>3</sup> APPLE WATCH, <http://www.apple.com/watch/> (last visited Feb. 22, 2016).

<sup>4</sup> FITBIT OFFICIAL SITE, <https://www.fitbit.com/> (last visited Feb. 22, 2016).

<sup>5</sup> Alexander Howard, *How Data from Wearable Tech Can Be Used Against You in A Court of Law*, THE HUFFINGTON POST (June 30, 2015, 2:41 PM), [http://www.huffingtonpost.com/alexander-howard/how-data-from-wearable-te\\_b\\_7698764.html](http://www.huffingtonpost.com/alexander-howard/how-data-from-wearable-te_b_7698764.html).

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

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

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

<sup>9</sup> *GPS Applications*, GPS.GOV, <http://www.gps.gov/applications/> (last modified Nov. 25, 2014) [hereinafter *GPS Applications*].

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

changed by GPS. One example of transportation improvement is the Next Generation Air Transportation System (“NextGen”) that improves the safety of air travel.<sup>11</sup> While there is no doubt as to the technological strides that have been made because of GPS, there are also negative consequences to consider. The question must be asked of how far GPS will be allowed to go before the government puts limitations in place to protect areas of life that naturally do not need to be tracked.

There are many positive effects of GPS tracking; however, privacy concerns regarding the use of this technology have become a cause for concern. In 2013, New York Senator Charles Schumer suggested that the government should develop a program to track developmentally challenged children.<sup>12</sup> He mentioned the program would be voluntary, but it was never specified as to whom it would be voluntary for.<sup>13</sup> If parents could make the decision to track the children, would it violate the children’s privacy rights for their every move to be recorded? Many people would say no and that the parents had the right to subject their children to this, but whether or not it is ethical is another question.

Senator Schumer stated, “DOJ already funds these devices for individuals with Alzheimer’s and they should do the same for children with Autism Spectrum Disorder.”<sup>14</sup> While the Department of Justice has made funds available for this type of voluntary tracking, it has not specified where the line will be drawn.<sup>15</sup> One could argue that all children under the age of eighteen should be tracked because they are not mentally fully developed or that children with Attention Deficit Hyperactivity Disorder should be tracked because they are easily distracted and are more likely to get lost or wander off. There are arguments that can be made for requiring nearly every person to be tracked, causing one to ask, first, if that is a world people would want to live in, and second, how does that violate citizens’ constitutional rights?

One positive example of a device that parents are already using to track their children is the Amber Alert GPS.<sup>16</sup> AT&T’s Amber Alert GPS is a device that children can carry around and stay connected with their parents through GPS location awareness.<sup>17</sup> Through its GPS

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<sup>11</sup> *Id.*

<sup>12</sup> Chloe Albanesi, *Schumer Calls for Voluntary Tracking of Kids with Autism*, PCMag (Nov. 4, 2013, 5:15 PM), <http://www.pcmag.com/article2/0,2817,2426744,00.asp>.

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

<sup>14</sup> *Id.*

<sup>15</sup> Pervaiz Shallwani, ‘Avonte’s Law’ Funding Set, WALL ST. J., Jan. 29, 2014, <http://www.wsj.com/articles/SB10001424052702304428004579351260977793196>.

<sup>16</sup> Albanesi, *supra* note 12.

<sup>17</sup> *Amber Alert GPS*, AT&T, <https://www.att.com/devices/amberalertgps/amber->

tracking capabilities, parents have the “ability to set and receive email alerts when [their] child enters or leaves a safe zone, exceeds a preset vehicle speed, or comes within 500 feet of a registered sex offender’s home.”<sup>18</sup> This device gives parents piece of mind knowing that their children are in safe areas and that they can find their child’s exact location at any time.

## II. HISTORY

The Soviet Union’s attack on Korean Air flight 007 was the event that triggered civilian use of GPS in the United States.<sup>19</sup> The flight took off on September 1, 1983 from New York’s John F. Kennedy International Airport destined for Seoul, South Korea.<sup>20</sup> The crew had set the Boeing 747’s autopilot, but when the airliner was approximately three hours from Seoul, the system failed, causing the flight to drift off course.<sup>21</sup> Due to these malfunctions, the aircraft unintentionally headed towards Soviet airspace.<sup>22</sup> Two Sukhoi Su-15 fighter jets were sent from a Soviet airbase to intercept the Korean Air Flight.<sup>23</sup> One of the Soviet pilots claimed that he tried to signal the Korean flight’s pilot using international code but that the pilot did not respond.<sup>24</sup> The Soviet pilots then fired warning shots and again claimed that they never got a response from the Korean Air pilot.<sup>25</sup> Rather than using any sort of humane means of intercepting the flight, the Soviets chose to destroy it by shooting it down, killing 269 people.<sup>26</sup> The Soviet Union’s claim that they attempted to signal the pilot is weak because not once did its pilots try to contact the aircraft by radio.<sup>27</sup> According to the International Civil Aviation Organization’s (“ICAO”) report on this attack, “[t]he Soviet pilots failed to follow ICAO standards and

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alert-gps.html#sku=sku6890803 (last visited Feb. 22, 2016).

<sup>18</sup> *Id.*

<sup>19</sup> Statement by Deputy Press Secretary Speaks on the Soviet Attack on a Korean Civilian Airliner, RONALD REAGAN PRESIDENTIAL LIBR. & MUSEUM (Sept. 16, 1983), available at <https://reaganlibrary.archives.gov/archives/speeches/1983/91683c.htm>.

<sup>20</sup> Thom Patterson, *The Downing of Flight 007: 30 Years Later, a Cold War Tragedy Still Seems Surreal*, CNN (Aug. 31, 2013, 4:33 AM), <http://www.cnn.com/2013/08/31/us/kal-fight-007-anniversary/>.

<sup>21</sup> *Id.*

<sup>22</sup> *Id.*

<sup>23</sup> *Id.*

<sup>24</sup> *Id.*

<sup>25</sup> *Id.*

<sup>26</sup> Michael Dodge, *Global Navigation Satellite Systems*, United States National Space Law, Slide 23 (2015) (on file with author).

<sup>27</sup> Patterson, *supra* note 20.

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recommended practices related to the interception of civil aircraft.”<sup>28</sup>

In the aftermath of the crash, then Soviet leader, Yuri Andopov, made the senseless claim that the flight was really a United States military operation trying to disguise itself by using a South Korean aircraft.<sup>29</sup> The Soviet Union was not only unhelpful in the crash investigation, but hampered it by not releasing any information about whether or not it had found any bodies or pieces of the plane.<sup>30</sup> This all changed once the Cold War ended, and in 1992 Russia released the cockpit voice recorder transcript to the United States Ambassador.<sup>31</sup>

After ICAO was able to do a full investigation, it was determined that the pilot of the Korean Air flight had made an error and that the autopilot system was not in the proper mode.<sup>32</sup> The autopilot was likely in “heading” mode, meaning that in this setting the system directs the plane along a route verified by the magnetic compass.<sup>33</sup> The problem with this setting for autopilot is that depending on the altitude, the accuracy of the magnetic compass can significantly decrease.<sup>34</sup> This autopilot mode is considered the cause of the aircraft going into Soviet airspace<sup>35</sup> According to Asaf Degani, a former cockpit information systems expert for the National Aeronautics and Space Administration (“NASA”),

if the autopilot had been flying under the plane’s highly accurate computerized ‘INS’ (inertial navigation system) setting, the 747 would have flown a different path, keeping it very close to—but still out of—Soviet airspace. The pilots . . . may have mistakenly thought they were flying in INS mode<sup>36</sup>

These mistakes are very unlikely to occur now because most commercial aircrafts have specific displays in them that clearly identify the mode that autopilot is in.<sup>37</sup>

The attack on Korean Air 007 changed the use of the GPS around the world. On September 16, 1983, President Reagan published a press release in part stating,

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

<sup>29</sup> *Id.*

<sup>30</sup> *Id.*

<sup>31</sup> *Id.*

<sup>32</sup> *Id.*

<sup>33</sup> *Id.*

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

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

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

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

[i]n their recent statement on the Korean Air Lines tragedy, senior Soviet officials have shocked the world by their assertion of the right to shoot down innocent civilian airliners which accidentally intrude into Soviet airspace. Despite the murder of 269 innocent victims, the Soviet Union is not prepared to recognize its obligations under international law to refrain from the use of force against civilian airliners. World opinion is united in its determination that this awful tragedy must not be repeated. As a contribution to the achievement of this objective, the President has determined that the United States is prepared to make available to civilian aircraft the facilities of its Global Positioning System when it becomes operational in 1988. This system will provide civilian airliners three-dimensional positional information.<sup>38</sup>

By making GPS available to civilian aircraft, President Reagan opened the doors for overall civilian use of the GPS system in all areas of life.<sup>39</sup> Korean Air 007 was a horrific event, but the significant impact that it has had in modernizing the technological world is one positive aspect, amongst all the tragedy, that must be recognized.

### III. TECHNOLOGICAL EXPLANATIONS

#### A. Global Navigation Satellite Systems

GNSS provide three main capabilities of positioning, navigation, and timing.<sup>40</sup> Positioning is the idea of being able to know something's or someone's exact location on earth via the systems.<sup>41</sup> Law enforcement has used these technological capabilities to determine someone's location in many different situations, such as to track suspects, to find missing children, and to aid in emergency situations.<sup>42</sup> Positioning is not only used by law enforcement; it has also been a

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<sup>38</sup> *Statement by Deputy Press Secretary, supra* note 19.

<sup>39</sup> Rick W. Sturdevant, *NAVSTAR, the Global Positioning System: A Sampling of Its Military, Civil, and Commercial Impact*, in *SOCIETAL IMPACT OF SPACEFLIGHT* 331, 332 (Steven J. Dick and Roger D. Launius eds., 2009), available at <http://history.nasa.gov/sp4801-chapter17.pdf>.

<sup>40</sup> Dodge, *supra* note 26, at Slide 3.

<sup>41</sup> *Id.* at Slide 4.

<sup>42</sup> *Geolocation Privacy Legislation*, GPS.GOV, <http://www.gps.gov/policy/legislation/gps-act/> (last modified Feb. 10, 2016) [hereinafter *Geolocation Privacy Legislation*].

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beneficial tool to the agricultural community and the military.<sup>43</sup>

The navigation capabilities from GNSS are extremely precise and are used for both navigation on earth and in outer space.<sup>44</sup> The Department of Commerce and the modes of transportation within it use the navigational features of GNSS to improve efficiency and to anticipate where potential problems may occur.<sup>45</sup> Many United States citizens as well as others around the world, use personal navigation tools that connect to GNSS.<sup>46</sup> For example, a person that is using the directions feature within Google Maps is using both the positioning and navigation capabilities of GNSS to tell them where they currently are and how to get to their desired destination.<sup>47</sup>

Timing is the third key capability GNSS provides.<sup>48</sup> There are atomic clocks on GNSS satellites that are incredibly precise, and this precise time data is used in many different industries.<sup>49</sup> The ways the timing feature of GNSS can be used range from astronomical studies to NASDAQ using it as the way to determine the exact second the stock exchange closes,<sup>50</sup> to students in space law classes using it to determine the precise time, down to the last minute, that they can turn in their papers without being late.

## B. Global Positioning System

GNSS are used all over the world, not only in the United States. The Global Positioning System is the United States' GNSS.<sup>51</sup> Other countries also have their own GNSS, such as Russia's Globalnaya Navigazionnaya Sputnikovaya Sistema<sup>52</sup> ("GLONASS")<sup>53</sup> and the European Galileo.<sup>54</sup>

GPS has three critical sectors that allow it to work correctly and efficiently: the space sector, the control sector, and the user sector.<sup>55</sup>

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<sup>43</sup> Dodge, *supra* note 26, at Slide 4.

<sup>44</sup> *Id.* at Slide 5.

<sup>45</sup> *Id.*

<sup>46</sup> *Id.* at Slide 6.

<sup>47</sup> *See id.* at Slide 3.

<sup>48</sup> *Id.* at Slide 7.

<sup>49</sup> *Id.*

<sup>50</sup> *Id.*

<sup>51</sup> *Id.* at Slide 10.

<sup>52</sup> Anurag Bisht, *What is GLONASS and How it is Different from GPS*, BEEBOM (May 5, 2015), <http://beebom.com/2015/05/what-is-qlonass-and-how-it-is-different-from-gps>.

<sup>53</sup> *Id.*

<sup>54</sup> Dodge, *supra* note 26, at Slide 12.

<sup>55</sup> *The Global Positioning System*, GPS.GOV, <http://www.gps.gov/systems/gps/> (last modified Feb. 11, 2014).

The space sector is made up of a satellite constellation that relays radio signals to operators on earth.<sup>56</sup> Currently, thirty-one operational satellites make up the GPS constellation and the United States made a commitment to have at a minimum twenty-four working satellites within the constellation 95 percent of the time.<sup>57</sup> In the event that more than seven of the satellites in the constellation had a problem at the same time, the Air Force keeps decommissioned GPS satellites, also known as residuals, in orbit that can be reactivated to keep the minimum amount of satellites from dropping below twenty-four.<sup>58</sup> Each of the satellites in this constellation orbit the earth twice a day, while flying at an altitude of about 12,550 miles above earth.<sup>59</sup>

The control sector is made up of “a global network of ground facilities that track the GPS satellites, monitor their transmissions, perform analyses, and send commands and data to the constellation.”<sup>60</sup> Members of the United States Air Force make up the 2nd Space Operations Squadron (“2SOPS”), which controls the constellation and is responsible for making sure GPS accessibility is never interrupted for either military or civilian uses.<sup>61</sup>

The three main parts of the control sector are the Master Control Station, the Monitor Stations, and Ground Antennas.<sup>62</sup> The Master Control Station is located in Colorado and is where 2SOPS manages the satellites.<sup>63</sup> This station is responsible for performing the most important control functions, such as getting navigation information from the Monitor Stations to the satellites and checking to make sure the satellites are in proper condition.<sup>64</sup>

There are sixteen monitoring stations across the globe, six stations belong to the United States Air Force and ten stations belong to the National Geospatial-Intelligence Agency (“NGA”).<sup>65</sup> Monitor stations main responsibility is to track GPS satellites when they pass over the station and then send the collected data back to the Master Common Station.<sup>66</sup>

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<sup>56</sup> *Space Segment*, GPS.GOV, <http://www.gps.gov/systems/gps/space/> (last modified Feb. 16, 2016).

<sup>57</sup> *Id.*

<sup>58</sup> *Id.*

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

<sup>60</sup> *Control Segment*, GPS.GOV, <http://www.gps.gov/systems/gps/control/> (last modified Mar. 27, 2015).

<sup>61</sup> *Id.*

<sup>62</sup> *Id.*

<sup>63</sup> *Id.*

<sup>64</sup> *Id.*

<sup>65</sup> *Id.*

<sup>66</sup> *Id.*

Ground antennas help 2SOPS “communicate with the GPS satellites for command and control purposes . . . [and] for normal command transmissions to the satellites.”<sup>67</sup> Not only are there four specific ground antenna locations in the same place as monitor stations, but the control segment is also linked to the eight Air Force Satellite Control Network remote tracking stations across the world.<sup>68</sup>

The user sector is the actual GPS receiver where the satellite signals are received.<sup>69</sup> The receiver then uses the information from the satellite signals to decipher its receiver’s exact position and time.<sup>70</sup> GPS receivers in this sector can be found in nearly every modern technology, ranging from cell phones to cars and even to watches.<sup>71</sup>

#### IV. LAWS AND POLICIES SURROUNDING GPS

The United States Code has three primary statutes that pertain to GPS.<sup>72</sup> Title 10 of the U.S. Code § 2281 specifies that it must be sustained for both military and civilian purposes.<sup>73</sup> This is important because it allows for the GPS to be maintained for civilian purposes without the government charging direct users a fee.<sup>74</sup> The lack of a direct user fee vastly opens up the door for greater use in all areas of society, therefore again adding to the amount of tracking devices available.

This statute also requires that the Secretary of Defense and the Secretary of Transportation work together to create and update the Federal Radionavigation Plan.<sup>75</sup> The Federal Radionavigation Plan is updated every two years and the last update was in 2014.<sup>76</sup> It is a 217-page document that gives extremely detailed information on the United States’ policies on using, maintaining, and operating all sectors of the GPS.<sup>77</sup> This plan is the main resource used regarding the positioning,

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

<sup>68</sup> *Id.*

<sup>69</sup> *GPS Applications*, *supra* note 9.

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

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

<sup>72</sup> Global Positioning System, 10 U.S.C. § 2281 (2012); 49 U.S.C. § 301 (2012); Promotion of United States Global Positioning System Standards, 51 U.S.C. § 50112 (2012).

<sup>73</sup> 10 U.S.C. §§ 2281(a)–(b).

<sup>74</sup> “The Secretary of Defense shall provide for the sustainment and operation of the GPS Standard Positioning Service for peaceful civil, commercial, and scientific uses on a continuous worldwide basis free of direct user fees.” *Id.* at § 2281(b).

<sup>75</sup> *Id.* at § 2281(c).

<sup>76</sup> DEP’T OF DEF., DEP’T OF HOMELAND SEC. & DEP’T OF TRANSP., 2014 FEDERAL RADIONAVIGATION PLAN (2014) available at <http://www.navcen.uscg.gov/pdf/FederalRadionavigationPlan2014.pdf>.

<sup>77</sup> *Id.* at iii.

navigation and timing of the GPS services and duties of the government.<sup>78</sup>

In Title 51 of the United States Code § 50112, Congress encouraged the President to take three paramount actions to promote the United States GPS standards.<sup>79</sup> First, as mentioned previously, the President must make sure that the GPS is continually available worldwide and that direct users do not have to pay anything for it.<sup>80</sup> Second, the President should engage in agreements with foreign nations and organizations to promote the GPS as an international standard.<sup>81</sup> Third, the President shall provide efficient resources along with specific instructions to maintain and protect the GPS' electromagnetic (radio) spectrum.<sup>82</sup> President Obama continued the support for this legislation in his National Space Policy of 2010, which specifically states “[t]he United States must maintain its leadership in the service, provision, and use of [GNSS].”<sup>83</sup>

49 U.S.C. § 301 gives permission for the development of a Nationwide Differential Global Positioning System (“NDGPS”).<sup>84</sup> According to the National Coordination Office for Space-Based Positioning, Navigation, and Timing, “NDGPS is a ground-based augmentation<sup>85</sup> system that provides increased accuracy and integrity of GPS information to users on U.S. land and waterways.”<sup>86</sup> This is one of the key systems publicly available for citizen use in the United States.<sup>87</sup> Another critical part of this statute is that the Secretary of Transportation must work with state and local governments on the use of GPS, specifically NDGPS, in the transportation sector.<sup>88</sup> Although the law states that the different levels of government must work together, it fails to distinguish a point where state and local government

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<sup>78</sup> *Id.* at iii, xiii.

<sup>79</sup> 51 U.S.C. § 50112 (2012).

<sup>80</sup> *Id.* § 50112(1).

<sup>81</sup> *Id.* § 50112(2); *United States Code*, GPS.GOV,

<http://www.gps.gov/policy/legislation/uscode/> (last modified Feb. 5, 2016) [hereinafter *Code*].

<sup>82</sup> 10 U.S.C. §§ 2281(a)–(b); 51 U.S.C. § 50112(3).

<sup>83</sup> *United States Policy*, GPS.GOV, <http://www.gps.gov/policy/> (last modified Oct. 21, 2013).

<sup>84</sup> 10 U.S.C. §§ 2281(a)–(b); 49 U.S.C. § 301.

<sup>85</sup> *Augmentation Systems*, GPS.GOV,

<http://www.gps.gov/systems/augmentations/#ndgps> (last modified Dec. 18, 2015) (“A GPS augmentation is any system that aids GPS by providing accuracy, integrity, availability, or any other improvement to positioning, navigation, and timing that is not inherently part of GPS itself.”).

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

<sup>87</sup> *Id.*

<sup>88</sup> 49 U.S.C. § 301(8).

use of these systems comes into conflict with federal privacy laws.<sup>89</sup>

While it is clear in these laws that technological advances using GPS are a priority to the American government, nowhere in the legislation does it explain how courts should address privacy issues that arise due to GPS, the government's operation of GPS, or the government's use of GPS for criminal suspect surveillance. The lack of direction on how the law should be applied to GPS tracking shows another missed opportunity to easily fill the gaps between GPS technologies and the hundreds of years old laws.

### A. U.S. Space-Based Positioning, Navigation, and Timing Policy

On December 8, 2004, President Bush approved the U.S. Space-Based Positioning, Navigation, and Timing Policy that superseded the U.S. Global Positioning System Policy of 1996.<sup>90</sup> This new policy "establishe[d] guidance and implementation actions for space based position, navigation, and timing programs, augmentations, and activities for U.S. national and homeland security, civil, scientific, and commercial purposes."<sup>91</sup> The six primary goals included in the policy were to:

- 1) provide uninterrupted availability of positioning, navigation, and timing services;
- 2) meet growing national, homeland, economic security, and civil requirements, and scientific and commercial demands;
- 3) remain the pre-eminent military space-based positioning, navigation, and timing service;
- 4) continue to provide civil services that exceed or are competitive with foreign civil space-based positioning, navigation, and timing services and augmentation systems;
- 5) remain essential components of internationally accepted positioning, navigation, and timing services; and
- 6) promote U.S. technological leadership in applications involving space-based positioning,

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

<sup>90</sup> *U.S. Space-Based Positioning, Navigation, and Timing Policy*, GPS.GOV, <http://www.gps.gov/policy/docs/2004/> (last modified Oct. 21, 2013).

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

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navigation, and timing services<sup>92</sup>

In order to achieve these goals, the United States wanted to make sure that GPS and the systems that go with it could function solely on their own, without being dependent on any foreign GNSS.<sup>93</sup> However, it was still important that the GPS be compatible with foreign systems, without creating any security risks or unauthorized access, in order to benefit the world as a whole.<sup>94</sup>

The policy also instructed to “[p]romote the use of U.S. space-based positioning, navigation, and timing services and capabilities for applications at the Federal, State, and local level, to the maximum practical extent.”<sup>95</sup> By different levels of government using this technology, such as in criminal investigations, it creates a lack of legal oversight of what the “practical extent” is and where to draw the line. While the policy did authorize the Secretary of Homeland Security to work with the Secretary of Transportation and other agencies to encourage use of GPS for aiding in public safety and emergency responses,<sup>96</sup> the policy failed to address how the governments or the Secretary were to handle any situations where GPS and the current laws may conflict. This policy also requires that continual improvements be made to GPS so that it meets the everyday needs of the American and global societies.<sup>97</sup> This purpose, however, does not address the laws that need to have continual improvements, guidelines, or interpretations made in order to keep up with technological advances. The law has not caught up to technology, and without it catching up many critical issues will arise, creating a battleground between the traditional laws and the technological advances.

## V. PRIVACY LAWS

Privacy Law is defined as “[r]egulation[s] or statute[s] that protect[] a person’s right to be left alone, and govern[] collection, storage, and release of his or her financial, medical, and other personal information.”<sup>98</sup> Justice Brandeis defined the right to privacy as “the right to be [left] alone.”<sup>99</sup>

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<sup>92</sup> *Id.*

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

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

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

<sup>96</sup> *Id.*

<sup>97</sup> *Id.*

<sup>98</sup> *Privacy Law*, BUSINESS DICTIONARY, <http://www.businessdictionary.com/definition/privacy-law.html> (last visited Feb. 22, 2016).

<sup>99</sup> Samuel D. Warren & Louis D. Brandeis, *The Right to Privacy*, 4 HARV. L.

The Bill of Rights has four Amendments that specifically address privacy.<sup>100</sup> The First Amendment protects each citizen's privacy of personal beliefs.<sup>101</sup> The Third Amendment does not allow soldiers to use private homes without the consent of the owner, which essentially protects the privacy of one's home.<sup>102</sup> The Fourth Amendment is the main privacy law that applies to GPS tracking, because it protects the privacy of a person from unreasonable searches and seizures.<sup>103</sup> Finally, the Fifth Amendment protects a person's right against self-incrimination, which means that the privacy of personal information is then also protected.<sup>104</sup> While these privacy laws are critical parts of the United States Constitution, they fall short when applied to privacy concerns regarding new technologies. Courts address privacy concerns case-by-case; however, this causes a lack of uniformity of what the set standard should be. Journalist, Tim Sharpe, explained this uniformity complication regarding privacy laws, stating "[a]s public opinion changes regarding relationships and activities, and the boundaries of personal privacy change, largely due to social media and an atmosphere of 'sharing,' the definition of the right to privacy is ever-changing."<sup>105</sup>

There is no federal statute that explicitly protects the privacy of one's geolocation information.<sup>106</sup> Because GPS tracking information easily crosses state lines in many different forms, the privacy protection of a person's personal location needs to instead be a federally enacted law. While some states have attempted to enact laws to aid in the direction on how to handle GPS tracking information,<sup>107</sup> it is likely that the laws would vary state to state and cause more confusion. United States Senator, Ron Wyden, explained that "[j]udges in different jurisdictions have issued conflicting rulings about what procedures law enforcement must follow—and how much evidence is necessary—to obtain individuals' geolocation data . . . [t]his lack of clarity creates problems for law enforcement agencies and private companies."<sup>108</sup> If a new federal law were enacted, it would need to clarify that it preempts

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REV. 193 (1890); Tim Sharp, *Right to Privacy: Constitutional Rights & Privacy Laws*, LIVE SCIENCE (June 12, 2013, 5:34 PM), <http://www.livescience.com/37398-right-to-privacy.html>.

<sup>100</sup> Sharp, *supra* note 99.

<sup>101</sup> *Id.* See also U.S. CONST. amend. I.

<sup>102</sup> U.S. CONST. amend. III; Sharp, *supra* note 99.

<sup>103</sup> Sharp, *supra* note 99; see U.S. CONST. amend. IV.

<sup>104</sup> Sharp, *supra* note 99; see U.S. CONST. amend. V.

<sup>105</sup> Sharp, *supra* note 99.

<sup>106</sup> *Geolocation Privacy Legislation*, *supra* note 42.

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

<sup>108</sup> *GPS Act*, RON WYDEN SENATOR FOR OREGON,

<https://www.wyden.senate.gov/priorities/gps-act> (last visited Feb. 22, 2016) [hereinafter *Wyden*].

any existing state law on this matter.<sup>109</sup> Due to the lack of laws on this specific privacy matter, one must look to other areas of privacy law that may apply.

Section 652B of the Second Restatement of Torts states “[o]ne who intentionally intrudes, physically or otherwise, upon the solitude or seclusion of another or his private affairs or concerns, is subject to liability to the other for invasion of his privacy, if the intrusion would be highly offensive to a reasonable person.”<sup>110</sup> Therefore, under tort law the government could be liable for using GPS tracking on a citizen, depending on the perception of how a reasonable person would view this type of intrusion. Because the reasonable person standard regarding new GPS tracking technology lacks clarity, tort law does not adequately protect privacy rights.<sup>111</sup>

Most younger generations today cannot imagine what life would be like without all of the current technologies, especially information provided by GPS. Most high school students have never struggled to figure out directions with a written map; instead, they use one of the many apps available to help provide directions using GPS. It is possible with the rise of social media accounts and the amount of public information people put out, that future generations may be the ones who care less about privacy, but this does not mean privacy laws should be abandoned or left outdated. In her concurrence in *United States v. Jones*, Justice Sotomayor addressed this point when she discussed how people might be okay with the tradeoff of less privacy for the convenience of GPS data and other new information providing technologies.<sup>112</sup> Justice Murphy addressed the conflict between advancing technologies and privacy when he stated, “the search of one’s home or office no longer requires physical entry, for science has brought forth far more effective devices for the invasion of a person’s privacy than the direct and obvious methods of oppression which were detested by our forebears and which inspired the Fourth Amendment.”<sup>113</sup>

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<sup>109</sup> “The federal preemption doctrine is a judicial response to the conflict between federal and state legislation. When it is clearly established that a federal law preempts a state law, the state law must be declared invalid.” *Preemption*, THE FREE DICTIONARY BY FARLEX: LEGAL DICTIONARY, <http://legal-dictionary.thefreedictionary.com/preemption> (last visited Feb. 22, 2016).

<sup>110</sup> RESTATEMENT (SECOND) OF TORTS § 652B (1977).

<sup>111</sup> Waseem Karim, Note, *The Privacy Implications of Personal Locators: Why You Should Think Twice Before Voluntarily Availing Yourself to GPS Monitoring*, 14 WASH. U. J. L. & POL’Y 485, 508 (2004).

<sup>112</sup> 132 S.Ct. 945, 957 (2012) (Sotomayor, J., concurring).

<sup>113</sup> *Id.* at 959 (Alito, J., concurring) (quoting *Goldman v. United States*, 316 U.S. 129, 139 (1942) (Murphy, J., dissenting)).

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**A. *United States v. Jones***

*United States v. Jones*<sup>114</sup> is the leading case dealing with the issue of GPS and privacy rights. After Antoine Jones was suspected of trafficking drugs, the Federal Bureau of Investigation and the local police force began investigating him using visual surveillance.<sup>115</sup> Through the information gained in the primary investigation, the Government was able to get a warrant to place a GPS tracking device on Jones' wife's car (Antoine was the main driver of the car).<sup>116</sup> The stipulations that went along with this warrant were that the device had to be installed in Washington D.C. and the government had ten days from when the warrant was signed to install it.<sup>117</sup> The agents violated the warrant when they did not adhere to the stipulations by installing the tracking device on the 11th day in Maryland.<sup>118</sup> Even though the warrant was executed improperly, the agents tracked Jones for twenty-eight days, which provided them with 2,000 pages of information that eventually helped in the prosecution of him and his co-conspirators on the charges of drug trafficking conspiracy.<sup>119</sup> Jones filed a Motion to Suppress the data acquired by the tracking device.<sup>120</sup>

The District Court held that the data obtained from the GPS tracking device when the car was parked at Jones' house needed to be suppressed, but that data from when the car was elsewhere was admissible.<sup>121</sup> The reason this court believed that some of the data did not violate his Fourth Amendment right was because Jones did not have a reasonable expectation of privacy when the car was on public streets.<sup>122</sup> The jury then found Jones guilty and the court gave him a life prison sentence.<sup>123</sup> The Appeals Court for the D.C. District reversed this conviction, holding that none of the GPS data would be admissible because by failing to properly execute the warrant it constituted a warrantless search that violated the Fourth Amendment.<sup>124</sup>

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<sup>114</sup> *Id.* at 945.

<sup>115</sup> *Id.* at 948.

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

<sup>117</sup> *Id.*

<sup>118</sup> *Id.* at 948 n.1.

<sup>119</sup> *Id.* at 948.

<sup>120</sup> *Id.*

<sup>121</sup> *Id.* at 946.

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

<sup>123</sup> *Id.* at 949.

<sup>124</sup> *Id.* at 946.

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*1. Majority Opinion*

The issue presented to the United States Supreme Court was “whether the attachment of a [GPS] tracking device to an individual’s vehicle, and subsequent use of that device to monitor the vehicle’s movements on public streets constitutes a search or seizure within the meaning of the Fourth Amendment.”<sup>125</sup> The United States Supreme Court held that these actions did constitute a search because the government physically occupied Jones’ private property with the sole goal of gaining information on his movements.<sup>126</sup> The court stated that a physical intrusion of this kind would have constituted a search under the Fourth Amendment when it was created.<sup>127</sup> This court cites Justice Harlan’s concurrence in *Katz v. United States*,<sup>128</sup> which stated that the Fourth Amendment is violated when the government breaches a person’s “reasonable expectation of privacy.”<sup>129</sup>

The Government attempted to argue that Jones did not have a reasonable expectation of privacy on the underside of his vehicle or on public roads.<sup>130</sup> The majority decided not to address this argument because they found that Jones’ Fourth Amendment rights did not fall under the *Katz* test and instead stated that the Court must “assur[e] preservation of that degree of privacy against government that existed when the Fourth Amendment was adopted.”<sup>131</sup> The historical interpretation of the Fourth Amendment used a trespass test to determine if a violation had occurred.<sup>132</sup> The trespass test was whether the government committed trespass on a person, house, paper or their personal effects.<sup>133</sup> Although the government cites to previous cases that used the *Katz* test of reasonable expectation of privacy, the Court held that the *Katz* test was meant to supplement the trespass test, not to replace it.<sup>134</sup> The Court clarifies that neither the trespass test nor the *Katz* test are the exclusive tests for the Fourth Amendment and, if there is only a transmission of electronic signals without a trespass occurring, that it would simply continue to follow the *Katz* test.<sup>135</sup> Therefore, due

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<sup>125</sup> *Id.* at 948.

<sup>126</sup> *Id.* at 949.

<sup>127</sup> *Id.*

<sup>128</sup> 389 U.S. 347, 360 (1967).

<sup>129</sup> *See Jones*, 132 S. Ct. at 950 (quoting *Katz*, 389 U.S. at 360 (Harlan, J., concurring)).

<sup>130</sup> *Id.*

<sup>131</sup> *Id.* (quoting *Kyllo v. United States*, 533 U.S. 27, 34 (2001)).

<sup>132</sup> *See id.* at 949–51.

<sup>133</sup> *Id.* at 950.

<sup>134</sup> *Id.*

<sup>135</sup> *Id.* at 953.

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to the fact that law enforcement officers did trespass on Jones' property by installing and using the tracking device, there was a violation of the Fourth Amendment, and the U.S. Appeals Court decision was affirmed.<sup>136</sup>

Due to the majority's focus on the physical trespass test, its analysis will not apply when the GPS tracking device has been preinstalled, such as those put in new cars.<sup>137</sup> An example of this type of preinstalled device placed in many cars is OnStar.<sup>138</sup> The OnStar program is used to provide directions to the driver, locate a stolen vehicle, and help manage features of the car remotely when an accident occurs.<sup>139</sup> The following two concurrences provide better clarification as to how the law should handle preinstalled GPS tracking devices as well as future technologies.<sup>140</sup> The majority opinion fails to give direction on how to deal with the new technologies and their potential to violate the Fourth Amendment.

## 2. Justice Sotomayor's Concurrence

Justice Sotomayor joins the majority in its decision because she agrees that a search falls within the Fourth Amendment when the government gets information through a physical intrusion on an area that is constitutionally protected.<sup>141</sup> She states, "[t]he government usurped Jones' property for the purpose of conducting surveillance on him, thereby invading privacy interests long afforded, and undoubtedly entitled to, Fourth Amendment protection."<sup>142</sup>

Trespass does not have to occur for there to be a Fourth Amendment violation, as there is a violation if the government oversteps in their search of an area that is generally known as a place where a person would have a general expectation of privacy.<sup>143</sup> Justice Sotomayor clarifies a very important point on the changing technology when she addresses the issue that government surveillance methods no longer always require a "physical intrusion" to take place.<sup>144</sup> She explains that

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<sup>136</sup> *Id.* at 954.

<sup>137</sup> Richard M. Thompson II, *United States v. Jones: GPS Monitoring, Property & Privacy*, 6 (Cong. Research Serv., CRS Report for Congress Order Code R42511, April 30, 2012), available at <https://www.fas.org/sgp/crs/misc/R42511.pdf>.

<sup>138</sup> Sarah Rahter, *Privacy Implications of GPS Tracking Technology*, 4:3 I/S, J. OF L. & POL'Y FOR THE INFO. SOC'Y 751, 752–53 (2008).

<sup>139</sup> *Id.*

<sup>140</sup> Thompson, *supra* note 137, at 6.

<sup>141</sup> *Jones*, 132 S. Ct. at 954 (Sotomayor, J., concurring).

<sup>142</sup> *Id.*

<sup>143</sup> *Id.* at 954–55.

<sup>144</sup> *Id.* at 955.

the majority decision failed to give direction as to how its “trespassory test” should properly be used when the new surveillance methods do not involve an actual physical invasion.<sup>145</sup> Obviously, the *Katz* test will be used when there is no trespass and only the transmission of electronic signals are involved; however, this test will also be affected as the expectation of privacy changes because of technological advances.<sup>146</sup> Justice Sotomayor stated, “I agree with Justice Alito that, at the very least, ‘longer term GPS monitoring in investigations of most offenses impinges on expectations of privacy.’”<sup>147</sup>

The *Katz* test for shorter periods of GPS surveillance will need to be further analyzed, because the information that can be obtained from this way provides a list<sup>148</sup> of extensive details about one’s personal life.<sup>149</sup> While this information can be obtained by traditional surveillance methods, such as police following persons of interest, GPS surveillance methods are easier, cheaper, and more efficient.<sup>150</sup> The reason why GPS surveillance and traditional surveillance methods differ under the Fourth Amendment is because GPS surveillance gets around the main checks and constraints against excessive police practices.<sup>151</sup> Justice Sotomayor clarified the issue by stating,

[a]wareness that the Government may be watching chills associational and expressive freedoms. And the Government’s unrestrained power to assemble data that reveal private aspects of identity is susceptible to abuse. The net result is that GPS monitoring—by making available at a relatively low cost such a substantial quantum of intimate information about any person whom the Government, in its unfettered discretion, chooses to track—may<sup>152</sup> ‘alter the relationship between citizen and government in a way that is inimical to democratic society.’<sup>153</sup>

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<sup>145</sup> *Id.*

<sup>146</sup> *Id.*

<sup>147</sup> *Id.*

<sup>148</sup> *Id.* (“Disclosed in [GPS] data . . . will be trips the indisputably private nature of which takes little imagination to conjure: trips to the psychiatrist, the plastic surgeon, the abortion clinic, the AIDS treatment center, the strip club, the criminal defense attorney, the by-the-hour motel, the union meeting, the mosque, synagogue or church, the gay bar and on and on.”) (citing *People v. Weaver*, 909 N.E.2d 1195, 1199 (2009)).

<sup>149</sup> See *Jones*, 132 S. Ct. at 955 (Sotomayor, J., concurring).

<sup>150</sup> *Id.* at 956.

<sup>151</sup> *Id.*

<sup>152</sup> *Id.*

<sup>153</sup> *Id.* (quoting *United States v. Cuevas-Perez*, 640 F.3d 272, 285 (7th Cir.

This changes the way people perceive the meaning of “reasonable expectation of privacy” and how it should be judged. Many people would likely agree that their reasonable expectation of privacy is violated by the government tracking their every move and being able to get a much more in depth view into their personal lives.<sup>154</sup> Justice Sotomayor makes sure to explain that while she does feel like GPS surveillance will change people’s view on privacy, this does not mean that the Government cannot obtain information from GPS surveillance when done lawfully, such as by a properly executed warrant.<sup>155</sup>

### 3. *Justice Alito’s Concurrence*

Justice Alito’s concurrence also had Justice Ginsburg, Justice Breyer, and Justice Kagan join.<sup>156</sup> The concurrence begins by stating one of the biggest flaws that the concurring justices see with the majority opinion: the fact that they believe the opinion is “based on eighteenth century tort law.”<sup>157</sup> This claim is interesting because, in reading the majority opinion, one will see that the Court does not eliminate other types of Fourth Amendment protection of privacy rights, but states that they are unnecessary in this type of case.<sup>158</sup> Justice Alito claims that the actions taken by the officers when installing the tracking system on Jones’ car would have constituted trespass to chattels in 1791 and that is the key reason he believes the majority said it constituted a search.<sup>159</sup> Justice Alito strongly disagrees with this approach as he thinks that the way the Fourth Amendment has more recently been interpreted does not support the majority’s conclusion.<sup>160</sup> Instead of answering the issue of whether the attachment of the GPS tracking device on a car using public roads is a search under the Fourth Amendment, Justice Alito contends that the issue that needs to be addressed is “whether respondent’s reasonable expectations of privacy were violated by the long-term monitoring of the movements of the vehicle he drove.”<sup>161</sup>

While the majority does not believe the actions taken by the officers constituted a seizure, they do decide that a search in violation of the

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2011) (Flaum, J., concurring)).

<sup>154</sup> *Jones*, 132 S. Ct. at 956 (Sotomayor, J., concurring)

<sup>155</sup> *Id.* at 954–57.

<sup>156</sup> *Id.* at 957 (Alito, J., concurring).

<sup>157</sup> *Id.*

<sup>158</sup> *Id.* at 953–54.

<sup>159</sup> *Id.* at 957–58 (Alito, J., concurring).

<sup>160</sup> *Id.* at 958.

<sup>161</sup> *Id.*

Fourth Amendment occurred.<sup>162</sup> Justice Alito finds a problem with this reasoning because in his opinion search and seizure<sup>163</sup> should not be separated.<sup>164</sup> If they are separated, then the majority fails to explain how either could constitute a search under the Fourth Amendment.<sup>165</sup> In this concurrence, it is argued that the mere placing of the GPS tracking device, without obtaining any information, was not a search, and the Court did not find that the use of the tracking device was a search either.<sup>166</sup> Justice Alito argues that the Court's understanding that any trespass where information and evidence was obtained amounted to a search is incorrect because information gained outside the home<sup>167</sup> is not covered by the Fourth Amendment.<sup>168</sup>

Justice Alito continues the concurrence, stating that the majority's reasoning was similar to previous cases<sup>169</sup> that held a technological device that obtained information was found to be a search under the Fourth Amendment.<sup>170</sup> The majority opinion argues that the holdings in these cases find that a "technical trespass" is enough to constitute as a search, but it fails to further adequately support this argument.<sup>171</sup> In *Soldal*, the Court found that a seizure in violation of the Fourth Amendment occurred when a trailer home was taken without the owner's consent, even though technically the privacy within this motor home was not violated.<sup>172</sup> This is different from the case at hand because the majority does not hold that a seizure occurred.<sup>173</sup> In *Alderman*, the Court held that there was a Fourth Amendment violation because homeowners have a reasonable expectation of privacy to conversations occurring within their residences.<sup>174</sup> Because these two cases do not provide enough basis for the majority to base their trespass

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

<sup>163</sup> *Id.* ("A seizure of property occurs when there is 'some meaningful interference with an individual's possessory interests in that property.'") (quoting *United States v. Jacobsen*, 466 U.S. 109, 113 (1984)).

<sup>164</sup> *See id.* at 958 (Sotomayor, J., concurring)

<sup>165</sup> *Id.*

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

<sup>167</sup> *Id.* at 958–59 ("At common law, any unauthorized intrusion on private property was actionable . . . but a trespass on open fields, as opposed to the 'curtilage' of a home, does not fall within the scope of the Fourth Amendment because private property outside the curtilage is not part of a 'hous[e]' within the meaning of the Fourth Amendment.").

<sup>168</sup> *Id.* at 958.

<sup>169</sup> *Id.* at 960 (citing *Soldal v. Cook County*, 506 U.S. 56 (1992); *Alderman v. United States*, 394 U.S. 165 (1969)).

<sup>170</sup> *Id.* at 959.

<sup>171</sup> *Id.* at 952 n.8.

<sup>172</sup> *See Soldal v. Cook County*, 506 U.S. 56, 66 (1992).

<sup>173</sup> *See Jones*, 132 S. Ct. at 953.

<sup>174</sup> *See Alderman v. United States*, 394 U.S. 165.179–80 (1969).

theory on, Justice Alito finds the majority's holding on this matter hard pressed.<sup>175</sup> He claims that there is "disharmony" between the holding in the present case and past case law, which is his major issue with the majority's holding.<sup>176</sup>

Justice Alito also finds four other problems with the majority opinion.<sup>177</sup> First, the majority focuses too much on the actual attachment of a small device to the bottom of a car that does nothing to impair the car's normal capabilities.<sup>178</sup> Instead, Justice Alito argues that the focus should be on the actual use of the device and the information it provides in regards to the long term tracking of a subject.<sup>179</sup> He explains that if the government could use GPS tracking through another technological means, such as all cars having to automatically have GPS systems, then the majority's ruling would not protect this under the Fourth Amendment.<sup>180</sup> It is important to look at the actual information that is being obtained and how this could be done in the future, so that similar cases have better direction with technological advancements.

Second, Justice Alito finds additional disharmony in the majority's decision when it finds two different outcomes for essentially the same action: tracking a car.<sup>181</sup> The majority states that a Fourth Amendment violation occurs when a GPS tracking device is put on a car and evidence is obtained that way, but a violation does not occur when undercover officers and aerial support tracking is used to gain the same evidence.<sup>182</sup> When the GPS tracking device was placed on the car after Jones' wife had given him the keys, it allowed him to have a claim that a Fourth Amendment violation occurred.<sup>183</sup> The reason behind for is that the Court basis its opinion on the belief that Jones would have the same property rights of a bailee, if not more.<sup>184</sup> The problem then arises that if the GPS tracking device had been installed before the defendant obtained the keys from his wife, he would not have a claim that his property had been trespassed upon and a Fourth Amendment violation claim would fail.<sup>185</sup> It seems silly that the detail of simply placing the device on the car is more important to the majority than the information being obtained and how far one's privacy should extend to.

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<sup>175</sup> See *Jones*, 132 S. Ct. at 960 (Alito, J., concurring).

<sup>176</sup> *Id.* at 961.

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

<sup>178</sup> *Id.*

<sup>179</sup> *Id.*

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

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

<sup>182</sup> *Id.*

<sup>183</sup> *Id.*

<sup>184</sup> *Id.*

<sup>185</sup> *Id.*

Third, because of the same issues addressed in the second problem, Justice Alito argues that if the Court's theory were to be used in regards to the Fourth Amendment, it could create variations of its applicability in different states.<sup>186</sup> If Jones lived in a community property state or a state that had adopted the Uniform Marital Property Act, he would already be considered an owner of the car along with his wife and it would not matter that the device was installed before his wife gave him the keys.<sup>187</sup> This would be different if he lived in a state that did not accept the community-property law, because his wife would always be understood to have been the sole owner of the car.<sup>188</sup> Because of the different applications of state law, it would be difficult to determine when the tracking device may be allowed and whether or not Jones would have had an actual claim based on the property law of each state.<sup>189</sup> It is important that the United States Supreme Court's holdings have the same applicability across state lines, especially because this could also complicate interstate tracking.

Fourth, the trespass test that the majority uses creates friction between how the law should be applied in cases where electronic surveillance is used and how it should be applied differently when physical tracking devices are used.<sup>190</sup> The example Justice Alito cites to is if a car had a tracking device previously installed in it, in case the car was stolen, would the radio signal activation be considered a trespass, even though there was no physical touching of the tracked car.<sup>191</sup> Courts have been attempting to decipher how the trespass to chattels law should be applied when there has been uninvited electronic contact with computers, showing that this is not the only area where the "trespass" law is unclear.<sup>192</sup> Justice Alito shows the failing logic of the trespass test in future cases when he asks, "[a]ssuming that what matters under the Court's theory is the law of trespass as it existed at the time of the adoption of the Fourth Amendment, do these recent decisions represent a change in the law or simply the application of the old tort to new situations?"<sup>193</sup>

Although Justice Alito thoroughly criticized the majority's use of the trespass test, he does not find the *Katz* test to be without fault.<sup>194</sup> The *Katz* test requires judges to use the reasonable person analysis,

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<sup>186</sup> *Id.*

<sup>187</sup> *Id.* at 961–62.

<sup>188</sup> *Id.* at 962.

<sup>189</sup> *Id.* at 961–62.

<sup>190</sup> *Id.* at 962.

<sup>191</sup> *Id.*

<sup>192</sup> *Id.*

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

<sup>194</sup> *Id.*

which is difficult because some may rely on their own perceptions of privacy rather than that of a reasonable person.<sup>195</sup> He also notes that the current reasonable person in the *Katz* test has thorough and established expectations of privacy, but these expectations can easily change with advances in technology.<sup>196</sup> These new technologies can create large gaps in different people's perceptions of the meaning of privacy. As also stated in Justice Sotomayor's concurrence, people may be willing to trade more of their privacy rights for the convenience and security that technology brings.<sup>197</sup> Justice Alito also theorizes that "even if the public does not welcome the diminution of privacy that new technology entails, they may eventually reconcile themselves to this development as inevitable."<sup>198</sup>

Hopefully, the opposite effect will happen and instead of accepting the lack of privacy due to technology, people will begin to push for new privacy legislation like they did when the wiretapping issue arose.<sup>199</sup> Rather than allow the court system to attempt to deal with wiretapping under the Fourth Amendment after *Katz*, Congress enacted statutes to better handle the problem.<sup>200</sup> This provided a better framework and much more clarity on how wiretapping needed to be regulated, which is exactly what needs to be done in the case of GPS tracking.

These regulations by Congress are necessary because of the increase of tracking devices in the United States. Justice Alito states, "cell phones and other wireless devices now permit wireless carriers to track and record the location of users—and as of June 2011, it has been reported, there were more than 322 million wireless devices in use in the United States."<sup>201</sup> Before computers, neither the courts nor the legislature had to really deal with the privacy issue, because the barriers were pretty obvious.<sup>202</sup> Manpowered tracking was only done on rare occasions because of the constraint on resources and time, but technology has changed all of this making statutes the best way to handle these privacy concerns.<sup>203</sup> The Court would be hard pressed to be able to try and interpret the majority's ruling in future cases with the changing perceptions around technology. Personal GPS tracking, such as through maps and social media, is not viewed as a rare aspect by most people, but is seen a part of everyday life.<sup>204</sup> It is difficult then to know

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<sup>195</sup> *Id.*

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

<sup>197</sup> *Id.* at 957.

<sup>198</sup> *Id.* at 962.

<sup>199</sup> *Id.* at 962–63.

<sup>200</sup> *Id.* at 963.

<sup>201</sup> *Id.*

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

<sup>203</sup> *Id.* at 964.

<sup>204</sup> *Id.* at 963.

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what the current, overall, public perception is regarding government tracking, when there are so many different ways that tracking is already occurring. Justice Alito exemplifies this, explaining,

[t]he availability and use of these and other new devices will continue to shape the average person's expectations about the privacy of his or her daily movements . . . A legislative body is well situated to gauge changing public attitudes, to draw detailed lines, and to balance privacy and public safety in a comprehensive way<sup>205</sup>

By having the legislature in charge, it limits the amount of interpretation that must be done by the Courts.

At the time this concurrence was written, neither Congress nor most states had enacted any type of statute that would help solve this GPS tracking issue and that is why Justice Alito is forced to use the current Fourth Amendment reasonable person analysis for this case.<sup>206</sup> Using this approach, Justice Alito finds that short-term tracking on public streets is acceptable to most people, but that long-term GPS tracking is not.<sup>207</sup> The longer period of tracking with a GPS monitor infringes on privacy rights because it could not easily be done using manpower alone and no technology.<sup>208</sup> He notes that when the time frame could be questionable as to whether or not it is too long of a time to track someone's car, the police can get a warrant to make sure there are no Fourth Amendment violations.<sup>209</sup> Overall, Justice Alito concurs with the majority because he did find the GPS tracking on Jones car to be long-term and a violation of his Fourth Amendment right.<sup>210</sup>

Justice Alito's concurrence is a thorough explanation of not only how the existing privacy laws fall short, but also how case law falls short and how court interpretations can easily be flawed. His suggestion of having the legislature enact laws would simplify and help limit the problems that are bound to occur with the increase in GPS tracking. The Alito concurrence better identifies the issues with the current tests used by the courts and problems that will continue to arise in the future if modern laws are not enacted that are more on point with this technology.

At the end of this case, one thing that all nine justices agreed upon was that a four-month tracking period constituted a search under the

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<sup>205</sup> *Id.* at 963–64.

<sup>206</sup> *Id.* at 964.

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

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

<sup>209</sup> *Id.*

<sup>210</sup> *Id.*

Fourth Amendment.<sup>211</sup> A key issue in this case that never got addressed was how much suspicion for probable cause is needed to be able to conduct GPS tracking on a suspect or whether a warrant is needed in all cases where GPS tracking may take place.<sup>212</sup> Because the Court did not address this issue, future cases will have to be decided on the current Fourth Amendment standards until better clarification is given.<sup>213</sup>

## VI. FUTURE LEGISLATION

GPS information combined with other technological means of obtaining information provide the government with a vast array of private data, with very few clearly defined limits.<sup>214</sup> Congress should enact new laws to provide stronger and definite barriers as to how potentially private information can be obtained and used.<sup>215</sup> There are five congressional bills currently being deliberated regarding GPS tracking information: the FY 2016 Transportation Appropriations Bill, the Consolidated and Further Continuing Appropriations Act 2015, the GPS Act, the Online Communications and Geolocation Protection Act, and the Location Privacy Protection Act.<sup>216</sup>

The FY 2016 Transportation Appropriations Bill establishes how the funds for the Departments of Transportation, and Housing and Urban Development are to be allocated from the treasury for the 2016 year.<sup>217</sup> Section 144 of this Act proclaims, “[n]one of the funds made available by this Act may be used to mandate [GPS] tracking in private passenger motor vehicles without providing full and appropriate consideration of privacy concerns under 5 U.S.C. chapter 5, subchapter II.”<sup>218</sup> This section is a step in the right direction to help to protect persons’ privacy rights in their vehicles from unconstitutional use of GPS tracking by the government.

Section 417 of Division K of the Consolidated and Further Continuing Appropriations Act 2015 contained the exact same wording as Section 144 of the FY 2016 Transportation Appropriations Bill.<sup>219</sup> The legislative history of this act shows that in the version of the FY 2013 transportation funding bill that was passed by the House of

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<sup>211</sup> Thompson, *supra* note 137, at 10.

<sup>212</sup> *Id.*

<sup>213</sup> *Id.* at 10–11.

<sup>214</sup> MARTHA A. BRIDEGAM, *THE RIGHT TO PRIVACY* 56 (Patrick M.N. Stone ed., 2003).

<sup>215</sup> *Id.*

<sup>216</sup> *Geolocation Privacy Legislation*, *supra* note 42.

<sup>217</sup> Transportation, Housing and Urban Development, and Related Agencies Appropriations Act of 2016, H.R. 2577, 114th Cong. (2015).

<sup>218</sup> *Id.* at § 144.

<sup>219</sup> *Geolocation Privacy Legislation*, *supra* note 42.

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Representatives, a similar section regarding GPS tracking was included, but the final version that was enacted did not contain this section.<sup>220</sup> This shows that some acts are getting better about including this type of privacy protection, likely because of the increased public awareness of these issues.

The Geolocation Privacy and Surveillance Act (“GPS Act”) is currently the most important bill on the docket regarding this topic.<sup>221</sup> This act

seeks to establish a legal framework that gives government agencies, commercial entities, and private citizens clear guidelines for when and how geolocation information can be accessed and used. The bill would create a process whereby government agencies can get a probable cause warrant to obtain geolocation information in the same way that they currently get warrants for wiretaps or others types of electronic surveillance. In addition, the GPS Act would prohibit businesses from disclosing geographical tracking data about its customers to others without the customers’ permission<sup>222</sup>

The GPS Act has bills in both the House of Representatives, introduced by Representative Jason Chaffetz, and the Senate, introduced by Senator Ron Wyden.<sup>223</sup> The two congressional members that introduced this legislation are from separate political parties, showing that it is a bipartisan issue.<sup>224</sup> Senator Wyden noted that the GPS Act is modeled after the federal wiretapping laws.<sup>225</sup> The fact that the same legislation was given to both the 112th Congress and the 113th Congress and neither did anything substantial to move it further along in the process is disappointing.<sup>226</sup> It is critical that the 114th Congress takes this issue more seriously and gives this legislation the adequate time and attention it deserves, due to the pressing nature of GPS tracking advancements and their use in society.

The Online Communications and Geolocation Protection Act has many similar specifications that the GPS Act has, but it also addresses

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

<sup>221</sup> *Id.*

<sup>222</sup> *Id.*

<sup>223</sup> GPS Act, H.R. 491, 114th Cong. (2015); GPS Act, S. 237, 114th Cong. (2015).

<sup>224</sup> *Geolocation Privacy Legislation, supra* note 42.

<sup>225</sup> *Wyden, supra* note 108.

<sup>226</sup> *Geolocation Privacy Legislation, supra* note 42.

privacy for internet users.<sup>227</sup> According to United States Representative Zoe Lofgren, this act “would require the government to obtain a warrant to intercept or force service providers to disclose geolocation data.”<sup>228</sup> It also establishes a civil cause of action if GPS data was unlawfully disclosed or unlawfully obtained.<sup>229</sup> This bill was only introduced to the 113th Congress and no further action has been taken on it.<sup>230</sup>

The Location Privacy Protection Act of 2015 would make it unlawful for private companies to collect or pass on any geolocation data obtained from an electronic communications device.<sup>231</sup> Exceptions to this act include user consent, parents or legal guardians tracking their children, emergencies and some uses by law enforcement.<sup>232</sup> Senator Al Franken reintroduced this bill on November 10, 2015, and it was referred to the judiciary committee.<sup>233</sup>

Another solution is to limit the way information is combined, such as limitations on GPS obtained data and other private database information. Attorney Martha Bridegam explained this option by stating:

[t]echnological innovation does not . . . seem likely to change the fact that democratic freedoms depend on maintaining democratically chosen separations—for example, the separation of powers among the executive branch, Congress, and the courts; separation between foreign spying and domestic policing; separation between public and private databases; separations among privately created databases whose combination would invade privacy; and separations between the use of data for its intended purpose (healthcare, credit card billing) and the use of data for other purposes (marketing, insurance policy decisions).<sup>234</sup>

While this may seem inefficient, it is one method that keeps privacy in

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

<sup>228</sup> Press Release, Reps. Zoe Lofgren Introduces Bipartisan ECPA Reform Bill (Mar. 6, 2013), *available at* <https://lofgren.house.gov/news/documentsingle.aspx?DocumentID=365633>.

<sup>229</sup> *Id.*

<sup>230</sup> Online Communications and Geolocation Protection Act, H.R. 983, 113th Cong. (2013).

<sup>231</sup> Location Privacy Protection Act of 2015, S. 2270, 114th Cong. (2015); *Geolocation Privacy Legislation*, *supra* note 42.

<sup>232</sup> *Geolocation Privacy Legislation*, *supra* note 42.

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

<sup>234</sup> BRIDEGAM, *supra* note 214, at 86–88.

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check, especially in regards to government use.<sup>235</sup> These adjustments and new laws would help separate out information that may cross the line in a Fourth Amendment search and it would give government officials clear boundaries on what information they can combine from different databases and methods and which they cannot.

Justice Marshall's dissent in the 1979 case, *Smith v. Maryland*,<sup>236</sup> also addressed the issue of the need to separate information gaining methods. He explained that a person may be okay divulging some private information for a particular purpose, but this should not open up the door for that information to be used for any purpose.<sup>237</sup> The *Katz* case further pointed out that "[w]hat [a person] seeks to preserve as private, even in an area accessible to the public, may be constitutionally protected."<sup>238</sup>

It can be concluded from the numerous bills and large amounts of commentary by lawmakers on the issue, that there are many people offering solutions. The problem is that there is a lack of further action being taken to get these solutions made into laws. In order to adequately be able to protect privacy rights, there must be new laws established that specifically address the use of GPS and the use of GPS tracking devices.

## VII. CONCLUSION

The daily increase in technological devices that use GPS does not seem like it will be slowing down anytime soon, so it is imperative that the legal world catches up quickly in regards to limitations and privacy protections. Clear laws are needed not only to protect citizens' privacy rights, but also so that law enforcement agencies know the correct procedures to legally use GPS tracking devices.<sup>239</sup> In regards to the proposed legislation, the GPS Act is the best solution for modernizing privacy laws to address GPS tracking issues. This act provides clear direction to all potential parties (i.e., government agencies, private companies, and citizens) on how GPS tracking can legally be used and what are unlawful uses. While it may not be a solution to every GPS issue in the future, it begins the process of unifying privacy law and technology. If the GPS Act is enacted, the passage of more laws will likely follow, especially as technology continues to advance. It is

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<sup>235</sup> *Id.* at 88.

<sup>236</sup> 442 U.S. 735, 749 (1979).

<sup>237</sup> *Id.* ("Privacy is not a discrete commodity, possess absolutely or not at all. Those who disclose certain facts to a bank or phone company for a limited business purpose need not assume that this information will be released to other persons for other purposes").

<sup>238</sup> *Katz v. United States*, 389 U.S. 347, 351–52 (1967).

<sup>239</sup> Wyden, *supra* note 108, at 16.

important that more lawmakers step up to the challenge of getting these new laws enacted, rather than pushing the proposed bills aside. Without new privacy laws and clarifications for GPS tracking, the existing law will continually become more out of date, providing no adequate regulations for this key aspect of today's society.