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March 28, 2014

The Honorable Dianne Feinstein
United States Senate
331 Hart Senate Office Building
Washington, DC 20510

Re: The need for establishing federal limits on drone surveillance by commercial *and* governmental entities

Dear Senator Feinstein:

Imagine a robot hovering overhead as you go about your day, driving to and from work, heading to the grocery store, or stopping by a friend's house. The robot records your every movement with a surveillance camera and streams the information to a government command center. Whether you make a wrong move, or appear to be doing something suspicious, even if you don't do anything suspicious, the information of your whereabouts, including what stores and offices you visit, what political rallies you attend, and what people you meet will be recorded, saved and easily accessed at a later date.

As I document in my book, *A Government of Wolves: The Emerging American Police State*¹, this scenario is inching ever closer to becoming our reality as corporations and government agencies alike prepare for their part in the coming drone invasion.

The need for legislative safeguards relating to drone technology and its uses and abuses

Unfortunately, this rapid adoption of drone technology is being undertaken without any effective federal safeguards in place to protect the privacy and civil liberties of Americans. Until this oversight is rectified, we are all in imminent danger of being preyed upon and having our most private moments turned into fodder for dubious purposes. Given your own experience as a

¹ John W. Whitehead, *A Government of Wolves: The Emerging American Police State*. New York: SelectBooks, 2013.

target of drone surveillance², it is our hope that you will recognize the need for legislation to protect *all* Americans from such threats to our security, regardless of whether the operator is a private citizen, a commercial entity or a government agent.

While I appreciate your recognition that drones used by the government require close scrutiny, your recommendation that a search warrant be required does not go far enough³. Given the courts' historic leniency towards police, predicated drone use on a warrant requirement would provide little to no protection for the average American. Thus, the only hope rests with Congress and state legislatures that they would ensure that Americans have a semblance of civil liberties protections against the drones.

In anticipation of at least 30,000 drones taking to the skies domestically by 2020 as a result of the passage of the FAA Reauthorization Act, The Rutherford Institute⁴ has been particularly vocal about the need for safeguards to ensure that Americans' safety, privacy, and civil liberties are not jeopardized from abuses on the part of both the private and governmental sector. To this end, The Rutherford Institute has drafted model legislation (a copy of which is enclosed), introduced and adopted at both the local and state levels of government throughout the country, which prohibits the federal government from using data recorded via surveillance drones in criminal prosecutions,⁵ in addition to prohibiting government agencies from utilizing drones outfitted with weapons and anti-personnel devices, whether lethal or non-lethal.⁶

We are on the cusp of a technological revolution which will upend our concepts of society, freedom, justice, and law. As Peter Singer, an expert on the proliferation of drone technology, has noted, drones are a "game-changing technology, akin to gunpowder, the steam engine, the atomic bomb—opening up possibilities that were fiction a generation earlier but also opening up perils that were unknown a generation ago."⁷

Nevertheless, we are plowing headfirst into this new era with little thought to what might be around the corner. Yet this technology is too powerful, too lethal and too indiscriminate for us to allow it to be unleashed on the American populace before any real protocols to protect our

² Kathryn A. Wolfe, "Dianne Feinstein spots drone inches from face," *Politico* (Jan. 16, 2014), <http://www.politico.com/story/2014/01/senator-dianne-feinstein-encounter-with-drone-technology-privacy-surveillance-102233.html>.

³ Kathryn A. Wolfe, "Dianne Feinstein spots drone inches from face," *Politico* (Jan. 16, 2014), <http://www.politico.com/story/2014/01/senator-dianne-feinstein-encounter-with-drone-technology-privacy-surveillance-102233.html>.

⁴ The Rutherford Institute is a non-profit civil liberties organization that advocates on behalf of the constitutional rights of all Americans, educates the public of threats to those rights, and provides free legal representation to individuals whose rights are violated.

⁵ Proposed "Freedom from Drone Surveillance Act," The Rutherford Institute, https://www.rutherford.org/files_images/general/Drone_Legislation_09-18-2012.pdf.

⁶ Proposed "Freedom from Drone Surveillance Act," The Rutherford Institute, https://www.rutherford.org/files_images/general/Drone_Legislation_09-18-2012.pdf.

⁷ David Wood, "American Drones Ignite New Arms Race From Gaza To Iran To China," *The Huffington Post*, (November 27, 2012), http://www.huffingtonpost.com/2012/11/27/american-drones_n_2199193.html.

safety and privacy rights have been put in place. Such an approach can only end in tragedy. Thus, it is critical that Congress be proactive in casting an eagle eye toward the use of drones domestically.

The urgency of this point cannot be understated.

Drone technology will transform the way we live our lives

Through a combination of defense lobbying and zealous advocacy by military brass, drones have become a mainstay of American life for the foreseeable future and a cornerstone of the emerging police state. Since 2007, the Federal Aviation Administration (FAA) has provided permits to 1,428 drone operators within the United States, 327 of which are still active. According to the FAA, there are six test sites planned for the integration of drones into US airspace, and within five years we will see 10,000 drones take to the sky.⁸

While these drones will occasionally be put to good uses, such as tracking wildfires and other environmental disasters, or locating missing persons, more often they will be used to expand the already pervasive American surveillance state. They will become routine tools of surveillance, used to track people going about their daily business. They will certainly become tools for corralling and controlling protestors and dissenters.

Law enforcement officials have already been vocal about their desire to include drone technology in their arsenal of surveillance and crowd control weapons.⁹ Michael Downing, the LAPD deputy chief for counter-terrorism and special operations, envisions drones being flown over large-scale media events such as the Oscars, using them to surveil political protests, and flying them through buildings to track criminal suspects.¹⁰

The affordability of drones will make them an easy sell for most industries, commercial and governmental, considering that manned airplanes and helicopters can cost \$600/hour to operate, while a drone can be put in the sky for less than \$25/hour.¹¹ For example, the online retailer Amazon is designing its own pilotless delivery drones, octocopters, which would be used to deliver products under five pounds within a 10-mile range and with a 30 minute turnaround. The Domino's pizza chain has also been looking to unmanned drones to give it an edge on its competitors. The "DomiCopter" is being developed to deliver two Domino's pizzas in the

⁸ Brian Bennett and Joel Rubin, "Drones are taking to the skies in the U.S.," *The Los Angeles Times*, (February 15, 2013), <http://www.latimes.com/news/nationworld/nation/la-na-domestic-drones-20130216,0,1021089,full.story>.

⁹ Ben Wolfgang, "Drone wars: Battle intensifies over domestic drone use after Boston Marathon bombing," *Washington Times* (April 24, 2013), <http://www.washingtontimes.com/news/2013/apr/24/boston-police-want-drones-for-marathon-security/?page=all>.

¹⁰ Brian Bennett and Joel Rubin, "Drones are taking to the skies in the U.S.," *The Los Angeles Times*, (February 15, 2013), <http://www.latimes.com/news/nationworld/nation/la-na-domestic-drones-20130216,0,1021089,full.story>.

¹¹ Brian Bennett and Joel Rubin, "Drones are taking to the skies in the U.S.," *The Los Angeles Times*, (February 15, 2013), <http://www.latimes.com/news/nationworld/nation/la-na-domestic-drones-20130216,0,1021089,full.story>.

company's Heatwave bags. Not to be outdone, there's also a TacoCopter drone—for delivering tacos—in the works.

And then, of course, there's the government, which will rely on drones for everything from border control and aerial surveillance to traffic enforcement, crowd control and fighting forest fires, and has begun offering grants to encourage local law enforcement to adopt drone technology as quickly as possible.¹²

In fact, drones are already being used for routine police surveillance. Since 2005, US Customs and Border Patrol have been utilizing drones in order to secure the Mexican border.¹³ In 2011, police in North Dakota used a Predator drone to conduct surveillance on a farming family before arresting them for an alleged cattle theft.¹⁴ Police in Mesa County, CO used drones to photograph vandalism at a public school, evidence which was then used to prosecute the crime.¹⁵ Police in California plan to use Qube drones, which are capable of hovering for 40 minutes at heights of about 400 ft. to conduct surveillance on targets as far as 1km away.¹⁶

Drones will soon come in every shape and size

Needless to say, whatever you can imagine, it will not be long before there is a drone sized and suited to every purpose under the sun.

Government and various defense contractors are already working on creating micro aviation vehicles, or micro-drones. These drones are modeled after birds, insects, and other small animals, with the intention of creating small surveillance devices that can remain hidden in plain view while navigating spaces off limits to conventional aircraft. For example, in 2011, DARPA, the advanced research division of the Department of Defense, released its prototype for a "Nano Hummingbird."¹⁷ Shaped like a bird, this drone is negligibly larger than an actual hummingbird and can fit in the palm of one's hand. It flits around effortlessly, blending in with its surroundings.

¹² Lev Grossman, "Drone Home," *TIME*, (February 11, 2013), <http://www.time.com/time/magazine/article/0,9171,2135132,00.html>.

¹³ Lev Grossman, "Drone Home," *TIME*, (February 11, 2013), <http://www.time.com/time/magazine/article/0,9171,2135132,00.html>.

¹⁴ Brian Bennett, "Police employ Predator drone spy planes on home front," *The Los Angeles Times*, (December 10, 2011), <http://articles.latimes.com/2011/dec/10/nation/la-na-drone-arrest-20111211>.

¹⁵ Larry Abramson, "Drones: From War Weapon To Homemade Toy," *NPR*, (August 2, 2012), <http://www.npr.org/2012/08/02/157441681/drones-from-war-weapon-to-homemade-toy>.

¹⁶ "Drone technology could be coming to a Police Department near you," *KESQ*, (February 26, 2013), <http://www.kesq.com/kesq/Drone-technology-could-be-coming-to-a-Police-Department-near-you/-/232254/19098288/-/wph5eoz/-/index.html>.

¹⁷ "Robot Hummingbird Spy Drone with Camera," *YouTube*, (March 3, 2011), http://www.youtube.com/watch?feature=player_embedded&v=K1EYpAqqC2s#!.

In June 2012, researchers at the University of Pennsylvania revealed drones similar to DARPA's hummingbird called "Nano Quadrators."¹⁸ These small, four-propellered drones operate based upon the flight dynamics of insects, enabling them to operate as a swarm. Using twenty drones, University of Pennsylvania researchers demonstrated how, moving compactly as a unit, the drones were able to navigate obstacles, form complex patterns, and even execute a fluid figure eight arrangement.

In 2012, Israel unveiled its new insect-inspired drone which they dubbed the "spy-butterfly" because of its two sizable wings. Weighing in at only 20g, this drone was developed for indoor surveillance, including public places such as "train stations and airport terminals—or office buildings." The size and muted sound of the "virtually noiseless" machines makes them unnoticeable and therefore ideal for intelligence gathering. The spy-butterfly is so realistic that, when tested, "birds and flies tended to fall behind the device arranging into a flock."¹⁹

As exemplified by the aforementioned micro-drones, the drones we will see used most commonly in America will be much smaller in size than the ones being used abroad. They will be able to take off and land anywhere, able to maneuver through city streets and hallways, and able to stop and turn on a dime, giving them a fluidity of movement that no conventional aircraft can match. They will be equipped with all sorts of weapons and sensors, including tasers, bean-bag guns,²⁰ "high-resolution video cameras, infrared sensors, license plate readers, [and] listening devices."²¹

One type of drone sensor, the Gorgon Stare, can keep track of an area 2.5 miles across from 12 different angles. A drone equipped with this technology can quite literally spy on an entire city at once. Another sensor system, ARGUS, can find an object that is only 6 inches long, from 20,000 feet up in the air.²² They will be able to hover over cityscapes and public events for long periods of time, providing a means of 24/7 surveillance.

Perhaps the most disturbing development in drone technology, DARPA has even begun to develop a Micro-Electro-Mechanical System (MEMS) for the manipulation of insects into "cyborgs."²³ Through genetic engineering, they might actually control the movement of insects

¹⁸ "US military surveillance future: Drones now come in swarms?" *RT*, (June 20, 2012), <http://rt.com/news/us-drones-swarms-274/>.

¹⁹ "Spy-Butterfly: Israel developing insect drone for indoor surveillance," *RT*, (May 19, 2012), <http://rt.com/news/israel-drone-indoor-butterfly-672/>.

²⁰ Robert Stanton, "Texas civil libertarians have eye on police drones," *The Houston Chronicle*, (October 31, 2011), <http://www.chron.com/news/houston-texas/article/Texas-civil-libertarians-have-eye-on-police-drones-2245644.php>.

²¹ Brian Bennett and Joel Rubin, "Drones are taking to the skies in the U.S.," *The Los Angeles Times*, (February 15, 2013), <http://www.latimes.com/news/nationworld/nation/la-na-domestic-drones-20130216,0,1021089,full.story>.

²² Lev Grossman, "Drone Home," *TIME*, (February 11, 2013), <http://www.time.com/time/magazine/article/0,9171,2135132,00.html>.

²³ Nick Turse, "Tomgram: Nick Turse, The Pentagon's Battle Bugs," *Tom Dispatch*, (March 30, 2008), <http://www.tomdispatch.com/post/174912>.

and utilize them for surveillance purposes. While the project is still in its infancy, its implications are frightening.

Surveillance is surveillance, whether carried out by government or the private sector

Keep in mind that the government does not retain a monopoly on these technologies. Eventually, these technologies will be as common and accessible to the average American as a smart phone, which at one time was cutting edge technology available only to the elite within governmental and scientific realms. Unless we put safeguards in place now to ward against abuses by those within government and the private sector, we may find ourselves regretting this oversight in years to come when it is too late to do anything about the fact that we are overrun with privacy abuses.

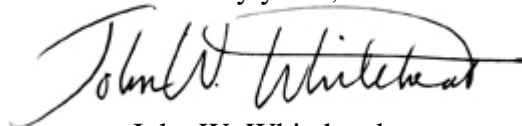
My point is simply this: surveillance is surveillance, whether it is carried out by a commercial drone operator using an unmanned aerial vehicle or a government operative relying on sophisticated phone algorithms. As such, *all* Americans—not merely those who are in the public eye—have a right to be free of such invasions of their privacy and incursions on their Fourth Amendment rights.

Thus, it is our hope that you will follow through on your stated intent to regulate and restrict the use of drones by ensuring that *all* Americans are protected from the clear and present danger posed by drones.

I have included The Rutherford Institute's model drone legislation as a resource to guide you in taking a more cautious and well-reasoned approach on how drone technology will be implemented and what safeguards are necessary to ensure that Americans' safety, privacy, and civil liberties are not jeopardized. As you will note, our recommendations include provisions that would prohibit the federal government from using data recorded via surveillance drones (commercial or governmental) in criminal prosecutions, as well as a ban on drones being outfitted with weapons and anti-personnel devices, whether lethal or non-lethal.²⁴

Should you have any questions about the enclosed, please do not hesitate to call upon me.

Sincerely yours,

A handwritten signature in black ink that reads "John W. Whitehead". The signature is written in a cursive style with a long horizontal flourish extending to the right.

John W. Whitehead
President

²⁴ Proposed "Freedom from Drone Surveillance Act," The Rutherford Institute, https://www.rutherford.org/files_images/general/Drone_Legislation_09-18-2012.pdf.

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Enclosures

cc: U.S. Senate Intelligence Committee
U.S. Commerce Committee