PEPPERDINE UNIVERSITY

Pepperdine Law Review

Volume 47 | Issue 4 Article 5

6-1-2020

# Emerging Technology & Regulation Panel Transcript

Bill Goodwin

Ryan Hagemann

Brooks Rainwater

Caleb Watney

# Emerging Technology & Regulation Panel Transcript

Bill Goodwin
Ryan Hagemann
Brooks Rainwater
Caleb Watney

GREG McNEAL: Good afternoon. Good afternoon, and welcome back to our third and final panel of this symposium. This panel is our Emerging Technology Panel.

I'm Greg McNeal. I'm a professor here at the law school. I'm also, just a little side trivia tidbit, I'm also the co–founder of a technology startup—a software company, so this is a topic that's near and dear to my heart—emerging technology and the regulation of emerging technology.

We've got a great final panel of experts assembled for you here. Our experts include individuals with a background in autonomous vehicles, drones, smart cities, robotics, artificial intelligence, air taxis. There's just a great ton of knowledge up here, and hopefully we'll be able to address all of those topics in the time that we have. Can we hit on all of those topics, guys?

And so, let me introduce each of our panelists from my left. We'll just go from here—that way—so I don't have to figure out right to left.

First is Bill Goodwin—Head of Policy, Regulatory, and Legal at Skyryse. He previously served as the Head of Legal and Policy at AirMap, a startup that I'm familiar with. That startup powers the future of low altitude flight. Prior to joining AirMap he was an attorney at an international law firm, Morrison & Foerster, and a member of the firm's Unmanned Aircraft Systems Practice Group, where he counseled clients regarding some of the unique product liability, licensing, and regulatory risks that arise in the drone context.

To his right, your left, is Ryan Hagemann, Senior Fellow at the Niskanen Center. Ryan previously served as Senior Director for Policy there. His research specialties include regulatory governance of emerging technologies, robotics and automation, privacy and surveillance, and issues at the intersection of sociology, economics, and technology.

To his right is Brooks Rainwater, Senior Executive and Director of the

Center for City Solutions at the National League of Cities—one of my favorite organizations actually; I really loved the National League of Cities. I think they do great work—if you ever want to get involved in sort of interesting matters related to municipal policy, you should check out the stuff that the National League of Cities does; they do amazing things throughout the country. And so, Brooks works also within the NLC at the Center for City Solutions. He drives the organization's research agenda, community engagement efforts, and leadership education program to help city leaders create strong local economies, safe and vibrant neighborhoods, world-class infrastructure, and a sustainable environment.

And finally is Caleb Watney. Caleb is a Fellow at R Street Institute, leading projects on emerging technologies, including autonomous vehicles, artificial intelligence, drones, and robotics. In this role he regularly meets with policymakers, files regulatory comments, writes op–ed pieces, and manages a monthly technology policy working group. I don't know if you're anything like me and you're a law student sitting there. I would be sitting there being like, "those are the jobs I want to do; that sounds really cool." But I'm a policy geek, so that's just how I'm going to geek out. Anyway, so the way the panel is going to go is in the exact same order that I introduced them. So, we'll start off with Mr. Bill Goodwin. Go ahead Bill.

(Applause.)

BILL GOODWIN: Thanks Greg; I appreciate the opportunity to be here. Obviously with such an interesting group of folks, I was a little bit dismayed, as a sometime colleague of Greg's at AirMap, that he was so much more enthusiastic about Brooks than he was about me.

(Laughter.)

GOODWIN: But that's okay.

McNEAL: That was intended.

(Laughter.)

GOODWIN: Former coworkers. Yeah, so I actually, I'm a—not an academic obviously—I work in-house as in-house legal at AirMap, in-house legal

now in policy at Skyryse. And for those of you who haven't had the great blessing of being an in-house lawyer, you learn very quickly that your brain is effectively automatized, and you learn only to speak in slides. So, of course I have some slides that are very crude that will help guide in my comments.

And just to make sure that we don't get lost along in these slides, we also have an agenda, which is of course what you need for any good meeting in a business context and that's where we will start.

So first on the agenda is the introduction, which I'm doing now. I want to make sure we didn't miss it, but I wanted to provide a quick snapshot of what I'll chat about. Then do an issue-spotting exercise, which I think will be particularly fun, hopefully for the law students in the room, and then talk a little bit about the impacts of emerging technology on places specifically. So just to narrow the scope of the emerging tech that I'm interested in, do a quick case study on aviation drones, and then come up with a recommendation that I have for how emerging technology should be regulated. And then in the remaining ninety seconds, the remainder of the panelists can give their remarks.

So before we get to the issue spotting, just a quick introduction. The thesis that I'd like to advance is that emerging technology, specifically when it engages places and influences where we live, or move or find our being, has a unique obligation that it imposes on the technology companies. One that they've largely abdicated today.

But as we move from a world where software can largely operate independently of the physical environments that are ultimately affected to a world where the software innovations move into heavily entrenched, heavily regulated industries like we've seen in the transportation space and a variety of disruptive technologies, and we're seeing across a lot of heavy industrialized companies across various types of industries, the obligation will shift in a dramatic way on those companies to account for the impacts they have on the places where they operate. So, that's my attempt at a grand overarching thesis.

The issue-spotting exercise I think should be fun. I'm not going to attempt a video, but for context these two pictures come from a video from a major manufacturer—I won't say exactly who, though it is probably clearly indicated there—who has a particular viewpoint on the future of transportation.

In this particular case, there is a pod that's being lifted by a drone. Those two things are intended to be independently operable, and it's picking someone up off a golf course, so very quickly this drone—human-sized drone—has

been summoned to a golf course to pick up an affluent gentleman. Can anyone spot any immediate issues that this might raise? Feel free to call them out.

AUDIENCE MEMBER: [Muffled Speech.]

GOODWIN: Golf balls hitting drones. That's actually the first time anyone has called that out specifically, but I'm really glad you did because then I don't have to call it out. He literally summoned his flying drone to a golf course, where people actually drive small objects, that could get sucked into rotors, hundreds and hundreds of yards, oftentimes without the courtesy of yelling "fore." Any other key considerations? Yeah, in the back.

AUDIENCE MEMBER: [Muffled Speech.]

GOODWIN: I love it. I love it fast forwarding to the end. Who does own the air space? We're no longer operating at ten-thousand feet or thirty-thousand feet, where there are clear federal rules that govern how flying things should operate and who manages them. We are in a golf course, where we've already determined they are accustomed to a certain amount of airspace management, typically for small round objects, but airspace management nonetheless, and they probably have a perspective as to whether or not they own their airspace.

We'll jump ahead to another picture that'll be useful for the issue spotting exercise. I love this snapshot, so anyone want to call out issues that might crop up in this context here that are unique? And I should say we're looking for issues that are of uniquely state and local concern, and I totally missed this in my introductory remarks, but I think what we're trying to discuss here is the relevant level for adjudicating disputes or regulating these types of emerging technologies. Sure.

AUDIENCE MEMBER: [Muffled Speech.]

GOODWIN: Noise right there. Not just the noise of the aircraft to the people underneath it, but look at the altitude of that vehicle. It is sufficiently lower than the top of what have to be three-million-dollar penthouse suites. I mean, you know, I've just been scrutinizing the New York rental market recently, so those have got to be very expensive places, and I'm pretty sure the noise issues are going to be significant once you get down to the level where

these people are operating. Any other issues that folks want to call out?

AUDIENCE MEMBER: Privacy.

GOODWIN: Privacy. That is a fantastic one. Again look at the all glass walls on those penthouse suites, I'm pretty sure that there isn't a very efficient federal regime to govern condo complaints when someone says they are firmly convicted that the guy in his flying car is operating very slowly right around, you know, bath time in the evening next to their condo. That just doesn't sound like something that the FAA is well-equipped to handle when it comes to deciding whether or not there's a privacy concern. Any other issues that folks can apply?

AUDIENCE MEMBER: [Muffled Speech.]

GOODWIN: Sure. Beautiful. I love it. That also applies; usually in the next image I use that to say where is this thing going to land because all these issues come into question.

And that actually is a perfect transition—once you get down to the ground, there's a world of police powers that exist, there's a lot of case law actually around takeoff and landing, there's civic ordinances, and then there's a host of other laws that come into play. Noise ordinances are actually in place in every major city in and around the world. There are regimes for adjudicating disputes about all sorts of different issues.

Just a fun flag I want to throw out there at the end. Think about how boring this guy must be that he's customized his notifications to make sure that the City Planning Department will be able to notify him about a bike path that he's never going to go on because he's in a flying car. I just love that; you've got to imagine that some designer thought that was a great thing to add to this video.

So I think what I'm trying to get at is that the impacts of a lot of emerging technologies that we're seeing that affect us where we live and where we move are necessarily local: the types of impacts that have to be adjudicated at a local level, the disputes that are going to arise, the rules that want to promulgate, the types of ways we want to think about how these technologies should impact us. Another great way of thinking about that besides flying cars is a quick snapshot of what life is like when you have bike sharing gone horribly wrong.

This is one of, I'm sure folks have seen these circulating on the Internet: there was a surge in China, in particular, but in a variety of different municipalities antedating the scooter craze, where folks realized you can slap a GPS device that had connectivity on a bicycle and all of a sudden you could share bikes everywhere.

The markets were massively saturated, cities across China were significantly disrupted even though they already were accustomed to having lots of bicycle traffic and you had somewhat dystopian scenes like this with civic authorities impounding bikes by the tens of thousands and creating, you know, these bike monsters, which I think it's again just intended to give you a visceral illustration of where this impact is felt—this impact is felt at the city level and necessarily so because the nature of the technology.

This picture is intended to give us a sense of how quickly our city and landscape could be impacted by these technologies. Neuro, a company that I love, decided that autonomous cars are way too tricky, they're going to have autonomous delivery robots that will bring you groceries to your door. Right now, they have a single partnership with Kroger that is operational, and I believe three neighborhoods around Phoenix, might be Tempe, they just raised a billion dollars.

So they are going from impacting three neighborhoods to likely a very dramatic impact on cities in and around the United States and possibly around the world. And the scale and the pace at which these devices are going to impact places where we live is enormous and the capacity for that change hitting communities very quickly is really limited only by the availability of capital.

I'll skip to the end here to give everybody else a lot of time, but I do love this particular image because it illustrates the nature of even less disruptive technologies and how you have to recognize who are actually going to be encountering them.

This is a real non-staged image; those are Starship robotics delivery bots. So smaller version of the neuro bots that I showed in a previous slide. What I love about this is that these are relatively small, but they're also just small enough to be below knee height on a senior citizen, who clearly does not think that they are necessarily adding a lot of value to his life.

However, these robots are operating at scale at George Mason University today—there's some pilot and they're serving tens of thousands of people fresh piping hot burritos or whatever it is that they put inside those tiny robots, so don't underestimate the pace at which these technologies will start to

impact the places where we are, and then try to remember these images when you think about the nature of the impacts on folks.

So we'll skip largely through the case study in aviation, except to say, if you don't arm communities with the tools and the regulatory responsibility to embrace and welcome new technologies you end up in a familiar story.

Does anyone know what this is a picture of besides Greg?

AUDIENCE MEMBER: [Muffled Speech.]

GOODWIN: San Francisco, yes. And what do you think the pings represent? There's a tip-off that its aviation. They're heliports. As we all know, when you go to San Francisco the most dominant feature of the skyline is the ubiquitous helicopters that fly all over the Bay Area, right? Everyone remembers that, you know, you're singing Tony Bennett up there by Nob Hill and then there's a couple dozen helicopters for transit, right?

No! There are heliports everywhere and there are no helicopters operating in San Francisco. Why? Because the communities in which those helicopters could have operated shut them all down, so the physical infrastructure is there, the places to take off and land are there, but the technology—in this case a 50, 60, 70-year-old technology, cannot operate—and this is the future that we're much more likely to see if we don't empower communities to welcome technology and address and mitigate the real negative externalities that happen, as opposed to advocating for a simplistic federal homogeneity for emerging tech.

And then I think we can probably skip to the end. But oh, one last great number. Anybody have any ideas what 40,000 and 1.1 could possibly represent? This is a totally meaningless number of course to anyone, but if you guessed this, I will actually give you a hundred bucks. Yeah.

AUDIENCE MEMBER: [Muffled Speech.]

GOODWIN: Oh, I love that, no that's the best example that someone came up with. No, 40,000 on the left-hand side represents the number of flights that the National Airspace sees on a daily basis, at least commercial aviation; obviously we're not necessary counting every general aviation flight. That's 40,000 flights, there are millions of people that are flying around on a daily basis. Huge, huge, it's a multi multi-billion-dollar industry.

The 1.1 on the other hand is the Department of Transportation's estimate

of the number of billions of car trips that happen per day. So you just think about the relative scale of those two industries.

That 1.1 number doesn't account for instance the number of scooter trips or bike trips or the other types of transportation that operate at a radically different scale than you see with traditional aviation. And that happens in a framework that is overwhelmingly dictated and governed by local authorities for good and for ill. I don't want to claim that every local authority has the most enlightened response to scooters arriving or Neuro or Starship robotic school delivery robots.

However, I do know that—notwithstanding the challenges of operating in a heterodox regulatory environment that is dictated sometimes even down at a block-by-block level—cars operate at a scale that massively exceeds what you see in aviation, massively, and they do it even though when you're in that plane flying in your unfiltered airspace 30,000 feet up if you look down it looks like a horrifying patchwork quilt of private property rights, speed limits, curb restrictions, the types of things that are only going to continue to grow as cities' ability to articulate and capture the preferences of the people that live there and impose those preferences on the people who are driving and operating there.

Notwithstanding all those facts, the scale of these industries is not commensurate at all, and the scale of growth is not commensurate at all, which is why you can see scooter companies and other transportation companies explode into being and operate at millions and millions of rides within a year of being, as a category, as a class. Whereas it takes decades in order to bring innovation, including safety and more efficient operations, into areas that operate within relative homogeneity at the federal level, and I think that's the end of it.

So the solution that I'll just leave everyone with is regulatory sandboxes, which in some cases are literally sand boxes. This is a picture of Arizona and there are folks in Arizona doing great work trying to create regulatory sandboxes to allow emerging technologies to thrive. So the work that the state AG's Department and Solicitor General's Office have done in Arizona has allowed FinTech, for instance, to experiment with new technologies that otherwise the SEC wouldn't have allowed to exist. Similarly, Arizona is a hotbed where millions of miles have been driven for autonomous cars, unlike for instance, an industry that is largely governed by federal authority, drones, people measure their successes by literally single flights saying we did an individual flight that went beyond line of sight and people cheer, whereas

companies like Waymo actually talk about going millions of miles autonomously, not disengaging. Again, the scale is not in any way commensurate.

I think it should suggest to us that the regulatory sandboxing model, a federalist model, is one that will help emerging technologies thrive and come into being and scale much more, much more effectively and much more efficiently than a federal model. I think that's it. There you go.

(Applause.)

RYAN HAGEMANN: Hello everyone, so sorry to let you down if you're fans of PowerPoint, but I'm not actually giving a PowerPoint presentation. I just figured that since Greg and Bill stood up here I might as well, as well, and I'm pretty sure Brooks is going to be up here too, so I don't want to just be with Caleb if he decides to stay seated. So expectations have been set.

So thanks Bill, that was actually really great. I think it sort of tees me up for a little bit of what I want to talk about by taking a big step back actually and looking at federal regulations as they relate to new emerging technologies.

Mr. Alford, when he was speaking, really alluded to what I think is one of the quintessential problems that we have with regulating some of these new technologies at the federal level these days and it's this idea of the pacing problem as it's often referred to.

And generally speaking, this is what we talk about when we discuss the nature of incremental improvements in the law and the regulatory apparatus and the exponential increase and improvement in technologies that we see. The gap between those two, that disparity, is the pacing problem. This idea that the law has a very difficult time keeping up with new technologies, primarily because the law is beholden to institutional anchors and forces that new technologies are not.

An entrepreneur working in his or her garage to develop the next killer app isn't actually weighed down by all of the baggage that comes along with, you know, trying to change basically any rules currently in the Federal Register or trying to pass a new bill in Congress. And so, the problem that we have at the federal level is that we don't really have any system for how to think about regulating some of these really new cutting-edge technologies.

Artificial intelligence has kind of become a really big talking point in recent years, but it's almost a buzzword when you talk to members of Congress and federal regulators because when we say artificial intelligence, when we say machine learning, when we say neural networks, really everyone's just

kind of talking about the highest-level abstraction you can possibly imagine. The moment you ask any specific details about how it is we're actually going to do X or Y or do Z the entire façade just starts crumbling down right because any rules that are applied very broadly to artificial intelligence, for example, could potentially also rope in your average Excel program, just running macros right.

So that also, I guess, speaks to one of the many problems at the federal level, which is the average age of congressional representatives being somewhere between Mick Jagger and Steven Tyler. Now there's not a whole lot of good understanding of how technology actually works, and that's why you have a lot of congressional representatives really relying on the buzzwords and relying on sort of low information providers for a lot of these issues.

And that's why for better or worse you also don't see a whole lot of federal legislation that keys into specific means of regulating these technologies. Look at any of the bills that have tried to address autonomous vehicles or artificial intelligence in the last year, year and a half, over the last two Congresses, and you'll find very quickly, if you actually read the statutory text, it basically doesn't mean a whole lot. It's either we're going to build the Commission to study this further, or it's well we're going to set up a federal advisory committee in the Department of Commerce or the Department of Transportation.

So, this all leads me to what I really want to focus on, and where most of my work focuses, which is this idea of soft law governance mechanisms and being in a room of lawyers, I would imagine most of you are familiar with the law in general. So, when I say soft law, what I'm actually referring to is this idea of a system or arrangement of substantive expectations that are not directly enforceable. So, things like social norms in your mind, you might be thinking, are a good kind of comparison here. But generally, soft law is the idea that we can regulate without actually having to pass new rules—pass new laws—and that's problematic for a lot of reasons, but it's also beneficial for a lot of reasons.

And I'll give you probably the best example of soft law as I see it, and the successes that have emanated from it. And that's a document called the framework for global electronic commerce that was passed, well not passed, it was promulgated by the Clinton administration back in 1997. This is basically a long-form document that can be boiled down into four or five points: the private sector should lead on developing the commercial Internet; governmental involvement where necessary should be simple, and predictable, and create an

environment that's generally conducive for commerce; [and] government should recognize the unique qualities of the Internet.

Nothing in this document was substantively enforceable because it basically just outlined a set of policy expectations that the Clinton administration had for all of those agencies that fell underneath its purview. And that's why when the early commercial Internet appeared, you didn't see a brand-new federal agency emerge to regulate, you know, global electronic commerce. And we haven't really seen a whole lot of movement on formal rules governing the internet over the last twenty years or so, except for recently.

Recently, we've seen a lot more talk about heavy-handed privacy regulations, which you've already heard a lot about. We've already heard a lot about how it is we might, you know, break up some of the big tech companies, which we've already heard about. So, over the last twenty to twenty-five years or so, we've kind of been running this natural experiment with this quasi-soft-law document that basically outlined how the government was going to be treating the Internet, and which was implicitly accepted by each subsequent administration, and actually in January of 2017 was officially reaffirmed by the Department of Commerce in the waning days of the Obama administration.

So, this is sort of what I view personally as the best example of how good soft law can work in practice. You basically hold off really, potentially bad regulations, really bad legislative efforts to kind of try to control a technology that doesn't do well in captivity. And what you get is literally all the good and the bad, of course, that has come from the global commercial Internet.

Now, we are running into this problem, however, where a lot of the new technologies that are starting to bubble towards the market that have basically emerged as a result of digital—interconnected digital technologies like the Internet—are running into kind of a wall when it comes to these processes, soft law mechanisms.

And the problem is that—and I think the best way to kind of frame this for people is the way that Peter Thiel framed it back in 2015 in an interview with Tyler Cowen of the Mercatus Center; he framed it as—the reason that we are seeing stagnation in the world of physical innovation and the reason we haven't seen as much stagnation in the digital world are the regulations.

So, he framed it as the world of bits versus the world of atoms. And the world of atoms have really sort of reached something of a plateau, where a lot of the recent innovations that we've been making in things like robotics and automation are getting to the point where they can't kind of operate on the

soft law principles anymore, at least as I see it.

So, we're kind of getting to a point where some sort of regulatory framework is necessary in order for us to move forward because if we can't get over this hump then we're going to be running into the very problem that Mr. Alford also identified earlier; this idea of global innovation arbitrage, where innovators, entrepreneurs, and the next new cutting edge technologies are not going to be developed here like the Internet was. They're going to be developed abroad.

And you've already seen a lot of this in play with things like drone research and development, or even autonomous vehicles, and if you want to talk about some really cutting-edge stuff, which is where a lot of my research recently has focused, gene and cell therapy technologies. We're seeing a lot of really good, depending on your perspective—good; we're seeing a lot of really cutting-edge developments come out of places like China and even Mexico, actually, because of the limited regulatory there.

So, we've gotten to a point where soft law isn't creating the sort of certainty and isn't creating the sort of expectations innovators and entrepreneurs need to kind of take innovation to the next level in this country. We've also hit that wall in the digital economy space, where, you know, we're finding that all of a sudden, the Internet is actually subject to the forces, the push and pull of political expectations, social demands. And you can only maintain this unstable equilibrium for so long as you don't have, you know, rules that are actually buttressed by sort of the more hard-law variants that we see in traditional sectors.

So, with that I'm going to actually turn it over to Brooks because I want to only talk very minimally about this stuff. I'm really more interested in hearing some Q and A's about these issues and others because I think, you know, there's a lot more that you folks have to ask than I have to really offer in terms of answers on this front. So yeah, thank you.

(Applause.)

BROOKS RAINWATER: So, I'm going to buck the trend, and I'm gonna stay right here. It's great to be with you all today, and Greg, thank you for the introduction and that you're following our work.

I hope everybody has a chance to check out NLC.org. The area within NLC that I oversee, our Center for City Solutions, is our Research Institute. There's about twenty-five people on our staff, and we're focused on, you

know, researching all of the issues that really impact cities and both looking at kind of the national conversation around cities as well as providing guidance and best practices for those cities.

So what I want to talk about today is the technology regulation in cities and really think about my thesis, which is that local regulation and innovation coexist and support one another. And I start with the kind of "small C" conservative principle, that the government closest to the people governs best.

And so if that's where we really start with the premise, I think that when we're talking about something like mobility and a lot of the new technology that's coming online, whether ride-hailing over the last seven to ten years or everything with micro-ability scooters and bikes now, what we really have is a question of the "Commons." And thinking about, you know, the traditional idea of the "Tragedy of the Commons" coined by William Lloyd back in 1833 that our public streets, sidewalks, and rights-of-way are shared resources.

So, the question really comes down to how do we share those? Who makes those decisions? And how can mayors and council members welcome innovation in but at the same time have the ability to look at their own local context and really make the decision that would work best for their community?

And so, the premise being that there's been a lot of state-level preemption that has come down, and really put the context into place that it was the state that should be making the decisions on something that used to be seen as very much a local matter, which would be our streets, would be our sidewalks.

You know, there *are* definitely good reasons for why different levels of government regulate, but I think the reason that we see cities regulating really comes down to three core things: health, safety, and welfare. City governments have always been charged with protecting the health, safety, and welfare of the public. And so, while different cities may choose to regulate differently, I think we should respect what's happening in one community and really think about why it is that that, you know, local governing body would regulate in a certain way.

There's always going to be cases that kind of come out of the mainstream, whether we're talking about housing or other issues, where there's been some real challenges and how local governments have regulated. But ultimately, I think particularly as we're talking about new mobility trends, the kind of push-pull that we've seen actually between local governments and technology companies, I think, has pushed the companies to come up with better products and better regulatory standards on the city space as well.

You know, as I've talked to people over the years, there's often, you know, conversation around cities not being able to kind of react in a quick enough manner. And what I would say is if you look at kind of the history of how cities have reacted to these new technology trends, it has actually sped up quite significantly in recent years to where we have, you know, larger and larger urban marketplaces, which are where these companies really are focused.

You know, the kind of distinction I would say is if you look at a company like Uber, Lyft, or you know now with Bird, Lime, and others, they are focused first and foremost on our largest urban centers, whether here in the U.S. or globally. And so, when we look globally, the kind of "mega regions" are driving a big portion of our GDP here in the U.S. Our 250 largest cities are kind of putting out 80% of all economic activity. So, when I think about how, you know, this growth is happening, I want to look at some of the challenges of growth.

In thinking about, you know, different things like co-option of public spaces, market failures, kind of the blurring of the public and private, and really even profits over people. Because ultimately if you're a local government leader, you want to make sure that companies thrive within your city, that is one of the core things, but at the heart of what you do every day is you're trying to react and kind of protect the public welfare.

And so, when we get into issues like preemption, I really think again, and kind of reinforcing this idea, of cities and kind of the leaders there being able to govern best because they know their communities and they know what kind of commerce can thrive best. The interplay between kind of federalism and preemption is really a kind of critical issue.

And we've seen over recent years, and we've done quite a bit of research on this; there's been a real upsurge in preemption. I think there's a lot of pieces that have played into this. Politics has become so divergent between our largest urban areas and our rural parts of the country, and this has played out in how many of these battles have kind of taken shape. And ultimately, I think the more that state governing bodies can work with local governing bodies to make sure that we're kind of not putting ceilings, but instead floors on regulatory kinds of laws, so it still gives you the ability to innovate within your own community, the preemption isn't necessarily a bad thing.

It's just how it's been used in recent years that has really led to some challenges. Because I do believe that layers of regulation make sense. I think that states should be looking at things like safety. I think that when you're

looking at autonomous vehicles or many other new technologies that cities aren't going to be able to regulate these things on their own nor should they, that there's a clear delineation between city, state, and federal government on how you regulate these new technologies.

But I do think that as we've seen many of these preemption battles play out in states that special interests have had a little bit more of a say than I think they should. And I go back to kind of this premise that if the largest kind of marketplace that companies are focused on are within our urban areas, the idea that kind of the rural component of the state is kind of driving that regulation, to me, seems a bit of a challenge. That's not to say that everybody shouldn't be involved and have this conversation, but I would kind of always kind of go back to the localist approach and put the city first.

And to that end, it's interesting that you mentioned Arizona before because I think that there's been a lot of really fascinating things happening in Arizona, a lot of innovation that's been driven by governor Ducey and others that have thought about how you can welcome these companies in and kind of drive technological innovation.

On the other hand, I think that you also see some challenges and particularly in the autonomous vehicle space having the first death of a pedestrian with Uber. And why I bring that up is because Waymo has been doing amazing things in the state. And so, it makes me wonder from kind of the safety regulation standpoint, do you have some actors like Waymo that are just doing a really good job with their autonomous vehicles in a different way than maybe other companies are?

And what is the state component on how they would regulate that, and you know, that gets to the interplay of what we've seen in Colorado. When ride-hailing first came online in Colorado, you know, Denver was obviously the kind of core marketplace, but there are a lot of other places where Uber and Lyft started to operate. And the state did preempt the localities from having ride hailing kind of legislation within their own cities, but it was really a two-way conversation. So the state worked together with Denver and many of the other cities to find regulations that work for both the state level, to make sure that you had kind of that broad economic marketplace that we're looking for, but it also took into consideration many of those city level issues that they were having. And now you're seeing further innovation where Uber is working directly with Denver and the public transportation agency there to really think about how it's a first-mile-last-mile solution both with their vehicles, as well as bikes, and other micro mobility companies that they own.

And so, I think as you build these relationships between the layers of government you can actually have better outcomes, and so that's arguably I think what everybody wants. You know, I may have a bias and say that cities are where innovation happens, but I do think that all layers of government working together can create better outcomes. So, with that I will pass it over to Caleb. Thanks a lot.

(Applause.)

McNEAL: Will he stand? Will he sit?

CALEB WATNEY: See Brooks came up with a novel innovation. He said you could give your speech while still sitting, and since I'm going to take advantage of that innovation, there is spillover effects from his innovation that I'm gonna benefit from.

No, but thank you all for having me and thanks to all the other panelists. I think there has been a really interesting conversation, and I hope that my speech can kind of connect some of the dots in sort of when is federalism versus preemption warranted for emerging technologies? How should we think about that? But I want to start off with the discussion of what I think are the two forces sort of shaping competition between different regulatory jurisdictions. How do jurisdictions act when they're in competition with one another?

And so, the first of these forces is one that's already been discussed—Mr. Alford brought it up—and that's innovation arbitrage. And the basic idea is that innovation can flow across borders to the jurisdiction where it's most welcome.

There's been a lot of really good interesting examples of that recently. Obviously, drones have been brought up. You're seeing Canada, Australia, Switzerland being some of the main places where, you know, drones are being tested and deployed before the United States because their regulators have been more open.

Similarly, you saw a couple years ago when the FDA was sending cease and desist letters to 23andMe; they moved to the UK in response to that. And this is also a force that can act within a country.

As has been mentioned several times, Arizona has been the leader in autonomous vehicle deployment and testing partially because Arizona has differentiated themselves by having the most welcoming and friendly innovation

framework for autonomous vehicles. And so that basic force of innovation arbitrage you could kind of think of it as it like an anti-regulation force pushing in one direction, in the sense that innovation is just going to move to the jurisdiction where it's most welcome.

The other force and the one that pushes in sort of the opposite direction is one I haven't exactly heard a good name for before, so if you guys have input afterwards, please let me know. I'm gonna call it a regulatory heckler's veto. And the weird thing about this is when you have a technology where a large portion of its value derives from being heavily networked, has large network effects, then any of the sub-jurisdictions within the market who has a sufficiently large market share can kind of veto the current regulatory equilibrium, make it higher, and the entire market has to shift to that new equilibrium.

McNEAL: It's called California.

(Laughter.)

WATNEY: California, that's a great example.

McNEAL: It's nice. You don't need a term. It's all you've got to do.

WATNEY: Just California. And California has played this role in a lot of ways. I mean as you were talking about with the privacy debate earlier. It doesn't really matter like what, you know, the average Michigan citizen or the average Illinois citizen wants. Suddenly all of their companies and Internet services they're using are being dictated by the California privacy bill because, you know, obviously these companies want to serve California citizens. It's easy for them to have one product that they take and roll out to an entire market, and so they take whatever is the highest one, and then they roll that out to the entire marketplace.

And so this regulatory heckler's veto, again it kind of pushes in the opposite direction of innovation arbitrage, you could kind of consider it a pro-regulation force, in the sense that there's almost always going to be some jurisdiction within a marketplace that has maybe higher than average regulatory preferences and then that ends up dictating what the entire equilibrium is.

And so, I think when you put these two forces in contrast, where does that get you? And when I try to think it through, I think you basically ended up [with] an equilibrium where, as the new technology is being initially

developed, it can be developed almost anywhere. Like it's almost certainly going to happen because all you need is one jurisdiction to allow it, the innovation can move there, and it can be developed. But then as a technology grows and matures, it starts to be offered, you know, in a variety of different areas; it grows in market share; and, in particular, if it relies on strong network effects, then almost anyone can regulate it.

And that's kind of the basic equilibrium, and you might see companies respond to that in different ways. I mean obviously if GDPR were ten times worse than it is today in being restrictive there comes some tipping point where companies just stop offering the product. But within certain realms they're basically going to, you know, meet whatever the highest regulatory standard is and offer it across the market.

The other way you might see people respond to kind of these two forces is through preemption deals. You almost see similar dynamics in some of the trade negotiations. It might be narrowly within one country's self-interest to have tariffs, but it's in the overall market's best interest to not have tariffs if it allows easier flow of goods and services. And so, all the countries basically come together, tie their own hands, preempt themselves, and then you allow, you know, free flow of goods and services, and everyone ends up better off.

I think that this framework can also provide some guidance for us as we're thinking about when and how is it appropriate to have preemption *or not* for emerging technologies.

So, if we're using the Internet, for example, you're looking at something with incredibly strong network effects, something where, you know, that heckler's veto is always going to be a looming issue. And it's also a very developed market. It obviously has global reach, and so you might look for stronger preemption on things like privacy.

Or something like autonomous vehicles, where you know it's still in the early days, but because so much of the value of autonomous vehicles comes from its ability to be used across state borders, you might want to think about preemption there so that you can make sure you're not losing out on all these huge network effects.

However, on something like drones, where it seems like most of the use cases are local—obviously you're seeing, you know, wedding photographers—they don't gain more benefit from their photography if people all over the world are using drones. Or similarly, if you're having transportation, you know, between a warehouse and a particular house within a city, again that's a very local issue that stays within state borders, and it's not an issue that

really benefits or gets weakened from use of drones in other areas. So that might be an area where we look to push more on sort of the global innovation arbitrage point, look maybe to have more federalism.

But you could imagine a future in which the drone market matures a lot, suddenly you are having, you know, cross state supply lines carried by drones. And then it would matter a lot more whether or not there was sort of this interoperability where you could use drones cross-state. So that's kind of the framework that I've been using to think about when and how preemption versus federalism is appropriate, but I would love to get more thoughts from the audience and hear from my fellow panelists.

(Applause.)

McNEAL: So, what I told the panelists was before I went to Q and A, I wanted them to have Q and A for each other. And I was honest with them. I said that would be a lazy way to make sure I, as the moderator, wouldn't have to come up with a question.

But I actually came up with one, and so what I was trying to do as I was taking notes was to try and have a question qua comment that would pick a fight with everyone simultaneously. And I'm gonna see if I've managed to do it. So, I'm just gonna throw it out on the porch and see if the cat licks it up.

And so, we've heard some discussion here about the idea of regulating the internet, and it's bits versus bytes versus atoms, right? So, I like to think about it as it's easy to have a set of like hands-off rules when we're regulating cyberspace, but when we're regulating meatspace, it's all of a sudden a different thing because the thing that's flying isn't flying through the air metaphorically. It's flying through the air like a drone, and it can hit you in the face, right? And so that has very different consequences.

Someone surfing the internet on their cell phone doesn't have an impact on you even if they're watching videos of drones. But the drone flying over your head very much might have an impact even if it doesn't hit you. It's the sound; it's the noise; it's the nuisance; the other types of issues that come up.

And so, I'm reminded of the issues that came up locally; particularly, Santa Monica was the hotbed of scooters when scooters started. And scooters raised, I like Brooks's framework of health, safety, and welfare problems. They raised issues in the physical world that Bill described. I think soft law wouldn't work. I'm picking fights. So it's great we as scooter companies will

all agree that we'll be really good about like where we park our scooters and stuff while we throw as many scooters onto the street as possible.

So failure of soft law impacts people in meatspace, not cyberspace. So that would make an argument in my mind that maybe cities should have some role.

But then you have cities that do absolutely insane things like what we saw in the uber examples, where they would do protectionist activities to protect the unions, right, the taxi unions.

Or they might make a set of rules that would limit the number of scooters that could be on the roadway, and you knew the number was arbitrary because it was 800. It wasn't 801; it wasn't 823; it wasn't based on any data; and you'd go to the public hearing. You'd say, "Where'd you come up with the number?" They say, "We just needed a starting point, and so my intern came up with the number." It just said 800 sounds pretty good. Was there any data to generate this number?

And so, it reveals sort of the failures of the cities, but worse than that there's the patchwork of regulations problem where if I'm riding my scooter in Santa Monica that has a limit of 800 and then I crossed the border into Venice, which there's no like geofencing of the scooter, there's no line on the road, I'm just all of a sudden in L.A. And now there are 799 scooters in Venice. And there are 1,001, or whatever L.A.'s rule is—how can this possibly be regulated across borders?

All of this just suggests to me, and I'm like as Federalist as they come, that each one of these new sets of regulatory regimes is a barrier to innovation. It's a barrier to a market. And that you should federally preempt the whole thing. Bill's like, Bill has never heard me say that in my life.

So why shouldn't we just preempt the whole thing and have one big federal regulatory regime? Not all this soft law garbage; not all these cities are where innovation happens; oh, cry me a river, Brooks. I mean really.

(Laughter.)

RAINWATER: I left it on that slide for a reason.

(Laughter.)

McNEAL: I needed to remember what you said.

HAGEMANN: So, so is the question for each of us to answer?

McNEAL: I didn't really have a question.

GOODWIN: Yeah, independent of the pseudo-question, I think it is a good opportunity where I will actually object to it something that Caleb said, which is that I actually believe that there's a bit of a slippery slope when we start talking about network effects as a good that should be protected in regulation.

And I'll give you an example because we've talked about scooters a lot as a good example. They're in a physical space. Let's leave aside the digital space, where I think the questions get a lot trickier. But just in the physical space, people complain about the fact that laws may change from city to city. But I think that that is—and this goes against the thesis of cities as places where innovation happens—but I think that is actually inherently what we should expect because cities are different places.

So take yourselves out of Malibu, which is a very nice place, and go with me to another very nice place, Lake Como. And I will tell you that if a bunch of scooter companies go to Lake Como—I once went to the world's greatest conference . . .

McNEAL: This is in Italy. It's very, very fancy.

GOODWIN: . . . and there are a number of small isolated communities around this incredibly beautiful lake and one of the things that's most toxic is that you have people who ride really obnoxiously loud motorbikes, clearly never heard of a muffler, and then they try to rumble into these small towns and a number of them have attempted to ban motorized vehicles.

Why? Because it is essential to the quality of life and what is the economic basis of all these towns, namely the tourism, to not allow something that in the interest of say the scooter company that's renting those scooters would make a lot of sense.

It is in the city's interest and the broader economic community to say, "hell no, there's no scooters," and I actually think that that is a good that should be respected. But I think we can go one step farther; it doesn't have to be the city that makes a decision, it should be the individuals within the city using voluntaristic methods to come to that conclusion and only using the city as the regulator of second to last resort as it were when their attempts to

address those issues fall short of achieving the goals that they're trying to accomplish. Kind of rambled that sentence on until the end there, but I found a stopping point.

WATNEY: Yeah, so I don't think my argument would be that there can never be a role for, you know, local sound prohibitions like there are time, manner, and place restrictions, you know, that we tend to find appropriate. You know, we don't allow you to just blare a siren at night for no reason, and that's, you know, there's probably good reasons for that.

I think one good test for kind of, like, how strong are the network effects and are they worth protecting is: are you in a situation where, kind of, the highest regulatory standard becomes de facto the national standard or, you know, the standard within the state?

And so if you're finding that there is a lot of differentiation by cities and products are being carefully tailored to those cities, and that's maybe an indication that the network effects really aren't that strong.

Now, on the other hand, you can find that sometimes cities can kind of write themselves out if they try to have too strong a regulatory standard.

You know, so obviously if there's a city that just said no we're not going to have any roads here because we hate motorized vehicles so much, and they, you know, bashed up their own roads and had all highways diverted that would eventually end up hurting the city, and I mean if they did that without any sort of recourse for another way around for the highway then there would be larger, you know, commerce issues going between states.

But yeah, I guess my point here would be that not all network effects are strong and worth protecting, but there are some easy tests you might have for determining that.

RAINWATER: I think I'm gonna come back to what you . . .

McNEAL: You're coming around to my preemption?

RAINWATER: Yeah, yeah because I think you gave a great example of what happened in Santa Monica, where the challenge was that you had so many scooters on the street that they were crowding sidewalks. So if you were handicapped, you couldn't get by in your wheelchair, people were tripping over them, they were being thrown kind of everywhere helter-skelter.

So, like ultimately, yeah, I think it is somewhat arbitrary to put a 700 or

800 cap on it.

But I think there are already communities that are regulating in a good way like where I live in Arlington County, right outside of DC, the initial cap I think was around a thousand and each scooter had to be driven three times a day, I think was the minimum. And as they could show that those scooters were getting three rides a day, they're going to expand that cap over a period, I think it was either six or eight months.

And so you're starting to see best practices that are rising in cities and communities nationwide that are, what I would argue, is that's where you're seeing that innovation happen, and that should kind of feed the larger state, the larger kind of national conversation around how these things should be regulated.

Will you have challenges with that? Yes, absolutely, but again I would go back to the fact that the companies themselves need these marketplaces in the same way that people within these cities need these goods. I think fundamentally, things like scooters and ride-hailing are good.

I think they've created a better marketplace for cities and allow people to get around in better ways. And so it's not a question of whether they should be there or not—it's a question of how they are there.

McNEAL: Just a little side note of what was most fascinating to me when I went to the Santa Monica hearing on scooters. So before becoming a law professor I worked in city government—I worked in a municipal law department—and my PhD is in public policy and administration, and so I have this background in like city government.

And I was amazed that the city had a mobility expert and two other staff members. So the mobility expert was testifying, and she had two other staff members that worked with her, and so that's not true of every, some NLC cities are pretty small.

But Santa Monica is not by any means one of the biggest cities in California, but nevertheless has a mobility expert who was talking about the technology and knew the technology and knew the capabilities of the technology, was talking about Github and data sharing, and the kinds of stuff that you, like, you definitely wouldn't expect a member of Congress to be making references to Github and standards for data sharing and data portability, and I just thought that that was really fascinating. Yeah.

RAINWATER: So I mean I'd actually love to ask Caleb a question. We

talked about it a little bit before we started, and it gets at—and I love your term too—"the regulatory heckler's veto."

So, my question to you would be: how does that play out versus agglomeration effects?

We, you know, everybody laughed about the example of California, but so much of the technology industry is here and it's in Silicon Valley and it's in San Francisco, and San Francisco is one of the most highly regulated cities in the country, if not the world, and so how would you kind of see that playing out because people continue to be drawn to San Francisco and Silicon Valley?

WATNEY: Yeah, that's a great question. So, if you look at like the literature on agglomeration effects, they seem to be incredibly robust, and they can persevere through all sorts of tampering and bad laws.

I mean you just look at housing prices in San Francisco right now, and the fact that it is still the innovation, you know, capital really of the world, [which] is a testament to how strong the agglomeration effects are.

So I would almost say I would think of agglomeration effects as this exogenous force, you know, where it just kind of, for almost random reasons, particular cities become clusters of talent that has sort of a self-perpetuating cycle, and that certainly increases the veto power that, you know, any jurisdiction has.

So, the fact that California has more veto power, than say Missouri, is partially a function of the fact that they have these agglomeration effects. But yeah, I guess that's how primarily how I view them.

McNEAL: Not seeing anything else from the panel. I'm now going to open it up to questions from the audience; just remember you need a microphone before you ask your question, and so looking around.

It could be a comment too, as you know, because I led with that example of not really asking a question just saying what I wanted to say. Go ahead. This looks like a comment.

(Laughter.)

AUDIENCE MEMBER: I think, I think Tom already indicated exactly how to convert a comment into a question.

McNEAL: So what do you think?

AUDIENCE MEMBER: Caleb, I wanted to address your network effects factor. As I think about it, I think that it doesn't make any sense.

That what you're really talking about is the extent to which any particular technology, what it costs that technology to comply with multiple, with you know, patchwork of regulations, and I don't think that maps perfectly onto network effects.

Like, for example, drones and scooters should have no network effects, to speak of, but the fact that they can cross jurisdictions means that, you know, creates a sort of regulatory problem.

On the other hand, you know, there's plenty of technologies that will allow you to identify where a user is coming from, and you may have a lot of network effects.

You may have a perfect ability to serve up, you know, to comport with certain regulations for users from one jurisdiction, and it really doesn't cost that much more to also comport with regulations from another. I think that's the thing that mediates.

It's not so much—some of that will map on to network effects—but not consistently. I mean, I do think that you're right about the push-pull between the two effects you identified, but I think the third thing is really this this cost of compliance with multiple . . .

WATNEY: Yeah.

AUDIENCE MEMBER: . . . and of course that will also depend on the type of regulation. Sometimes that will be, again, like the number of scooters regulation, no problem complying simultaneous no spillover effects there; whereas, that wouldn't be the same for other types.

The only other thing I wanted to add was I don't understand exactly why we care so much about sort of attracting innovation. I mean, I understand why certain jurisdictions do, like they want tax base or something like that, but why does it really matter where the technology is developed if it can be deployed everywhere?

And if you're a city or state or whatever, and you think there's some risk to the process of developing the technology well, what you do is you sit back and say, "well we don't want it here—you develop it there; all of your pedestrians will die eventually, [and] they'll, you know, get the right technology and then we'll implement it here."

I mean I'm not sure what you get by being the place where the technology is implemented. You want to be able to use it, but it seems like a marginal addition to be able to be the place where it's implemented.

Don't you agree?

(Laughter.)

WATNEY: No, thank you for your comments. This is still a model I'm trying to work through, so I appreciate your feedback.

I think you're probably right in the sense that there is a missing variable there, I would say it's not just network effects interacting by itself. There's like another interaction variable that I'm probably missing, which is the cost of differentiating your product across regulatory jurisdiction, so that if you were to multiply the network effects times the cost of depreciation that's probably closer to what you wanted to get to.

GOODWIN: But also to your question of does it really matter where a technology is deployed?

I think that actually, underneath my comment, which I started to allude to there, is that as much as I am a Federalist, it doesn't mean I have this unshakable confidence in the expertise of localities to deal with emerging technologies, or that their prudence in determining whether or not they should even be a guinea pig for a new technology makes any sense at all.

My background prior to law school was state and local political consulting, in and around the political networks that influence developers, and you would be horrified, or perhaps not surprised, at how many cities love to play developer including here in California, for a long time with redevelopment money, and they declare parts of the city blighted and then pick and choose market winners.

And that kind of activity, I think, illustrates perhaps what you're getting at, which is, there isn't necessarily a good reason to welcome an emerging technology, and I think it's perfectly rational for some places to say we're going to take a wait-and-see approach.

Conversely, though I do think that if you are a savvy community, like Arizona seems to be, and you think that you can attract a longer term, you know for instance industrial presence or, you know, attract more corporate headquarters and avoid for instance the second-class citizen of the world status that L.A. now has, in terms of corporate headquarters and the attendant

effects on your talent pool and tax base etc., that seems well within the province of a locality to try to decide, because I think they're going to be closer to the answer to that question even however impaired that decision may be than any federal authority again trying to pick winners and losers where the problem only escalates.

McNEAL: This is where I'll reveal my true opinion about the federalism stuff which is responsive to your question.

This is where I think the economists who argue at that, you know, each new restriction in each jurisdiction is a barrier to commerce and trade, and therefore, we should preempt it all and get it get rid of it, get it wrong because it rests on the assumption that the system that's implemented at the federal level, or at the state level, is the market efficient optimal outcome. Whereas there's no guarantee that you're not going down a regulatory blind alley there.

And so, if we're gonna take like a drone delivery example or something, if Palo Alto wants one set of rules for drone delivery and Mountain View wants another and Berkeley, California wants to just outlaw it completely, which is what they're apt to do in Berkeley, right, then they won't get their deodorant delivered within a couple hours—which they're not using deodorant anyway—and so they're all just gonna like continue to be stinky. And the drone will fly over Berkeley, and like the people in Berkeley will be stinky until they can't stand being stinky anymore, and then they'll change the law, and they'll order some stuff, and we'll get to a market optimal outcome through the competition across those jurisdictions, and it would be regulatory competition for the right outcome.

Whereas I think what the economists do a lot of times looking at this is they say well there is some like efficient outcome that I can graph and curve and give you some fancy math, which is all letters, and look at the way that this should be as the outcome, and then, in the abstract, if federal preemption or state preemption would be the right way to do it, but it doesn't actually really work out that way, which is why my preference would be for the patchwork because I think the patchwork actually leads us to a public law conversation about the correct outcome.

GOODWIN: And I'll just piggy-back on that just to pile on a bit. I think the allure is very strong both on the freedom maximizing side and economic maximization.

So one of the areas where I was somewhat dismayed is I saw Tyler Cowen

last summer published a piece saying that he thought we should federally preempt all occupational licensing regimes at the state and local level. And he had literally one line in his post that he said "because I can't think of any good reason why a state or locality should need to have their own independent occupational licensing scheme," and like that was, the sum of the argument, which he couched it in freedom terms and others often couched that that plea for federal preemption in economic terms—you're restricting the economic liberty of people in those economic goods that would result.

But the net result is the same that you grow the administrative state and you empower a small fiefdom of experts in Washington, D.C. to make all these decisions about our lives, where in point of fact, the reason I became a strange friend to Brooks over here is that I think cities with all their defects and their warts and the limits of somebody who rose up from city government.

For instance, who was deputized as the assistant city manager for special projects and now he's in charge of drone policy, you know, that isn't an optimal, from an expert perspective, an optimal way to come up with the right policy solutions, but it's so much more intimately associated with the actual people that are going to be affected that you're much more likely to see market-based solutions and voluntary solutions emerge and be the principles that are adopted by the city than you're going to see at the federal level.

McNEAL: Let me just get . . . now I'm fired up. So let me give another example on this.

So Bill brought up the example of automobiles terrestrial transportation versus aviation, which is such a great example because aviation is federal preemption. So, aircraft take off and land only with the permission of the federal government with a federal regulatory regime that certifies the aircraft down to the stupid fact that there are ash trays in a brand-new airplane that's produced today.

Why are there ashtrays in a brand-new airplane that's produced today when federal regulations say that you cannot smoke on an airplane and you haven't been able to do it since like the 80s?

Because some federal bureaucrats somewhere said "well someone might smoke and if they do smoke they're gonna need an ashtray to put it out in, so we're gonna put an ashtray in there," and that some other bureaucrat said "but we're gonna steal the ashtray shut so people don't think that they can smoke inside the aircraft." And this is running it out of a federal agency, right?

(Laughter.)

HAGEMANN: I was literally thinking that exact thing when I was in the bathroom on the airplane. Because I'm a smoker.

McNEAL: I actually, I actually know you did.

HAGEMANN: I was confused.

McNEAL: So now you have these new aircraft drones that are flying, right, and you have to figure out where drones are allowed to take off and land and where they're allowed to operate.

But drones are not airliners operating at 10,000 feet. Drones take off and land from sidewalks and fly next to your face and next to your home, and so what happens?

All the lobbyists in the drone industry get together because all of the cities, Brooks just creating all these nightmares for the poor drone companies, good for you, and so all of a sudden all these cities say, "Well, we don't want you taking off next to my outdoor vineyard or next to my restaurant or flying over my school." And the whole drone industry goes "Ah! Patchwork quilt of regulations! How am I ever going to know how to comply with it we need a single rule to handle this," right, and so what do they do?

They go to the Congress, and in Section 2209 of the 2016 FAA Reauthorization Act they direct the FAA to create a process for creating restrictions around places in the United States where drones can and cannot fly near.

Now in your like normal town, there's like City Hall does this and says like "you can park here, you can't park there, you can't like sleep on that curb," and there's like an entire city apparatus that hands this in the wisdom of the industry, and the federal preemption approach there's one bureaucrat in one office at the FAA who's going to figure this out for the 15,000 rule making jurisdictions in the entire United States.

And guess how much progress has been made on figuring that out to date. Zero progress. Nothing. They can't even figure out the shape of the table for the room where they're going to have the meeting to discuss the process by which they're going to figure out the process.

And so anyway, there's a reason that we have billions of automobile trips on the road today—it's because we have a federal framework for the automobiles and the way they work, but when it comes to Caleb's point—the time,

manner, and place of those operations, where the technology meets meatspace, where it's going to actually impact someone—the time, manner, and place decision is left to those people and their elected officials closest to the people, which are the local officials, to make the decision about whether you want cars parked overnight on the road, or whether you want a drone there on the road—it's the time, manner, and place.

Go ahead, sorry, I know you were waiting patiently.

AUDIENCE MEMBER: No worries.

McNEAL: I was just fired up. I told you I was fired up.

AUDIENCE MEMBER: You've got me fired up.

McNEAL: I'm filibustering for the microphone, really though, that's all I'm doing. Here it comes.

AUDIENCE MEMBER: You gotta, oh she handed it over to me—look at this, living dangerously. Yeah, so you got me fired up because, uh, you know if you if you want to go mano-a-mano with horror stories of regulatory jurisdiction, let's go—throwdown.

Okay, so there are thirty thousand jurisdictions in the United States that issue something called a cable TV franchise, that is completely, that's a vestigial organ. There's no reason for it.

All your health, safety, and welfare justifications are totally handled by other rules routinely administered by public works departments, and in fact, this is a rent-seeking device that quite regularly comes out of the local jurisdictions, and in fact they do illegal, unconstitutional things. And *Preferred Communications v. City of Los Angeles*, is now prevailing federal, Supreme Court precedent saying that the city of Los Angeles did violate civil rights seven different ways in giving out monopoly cable franchises that can't be done. This is a very, unfortunately, there were no sanctions, there was no injunction, this is a problem—an ongoing problem—it's, to this day, a problem in terms of competition at the local level.

But cities routinely engage in rent-seeking that is not health, safety, and welfare. It's just rent creation and rent distribution, and it causes great inefficiencies that can be, in the right circumstance, preempted by federal jurisdiction.

And about 15 years ago, California had a question about regulating cellular—a California jurisdiction for regulating cellular. And the network issues came up, and I engaged on that, and I had a little bit of a debate with an economist—I don't know what happened to an economist named Peter Navarro . . .

(Laughter.)

AUDIENCE MEMBER: . . . who was writing some crazy pro-regulatory stuff, some crazy pro-regulatory stuff that California had to regulate cellular, because the feds couldn't do it—and, uh, and he was completely wrong. I came to a Brandeis-ian position, or a non-Brandeis-ian position on that, the, you know, you could actually—I mean because the economies of scale, and the network economies there were obviously pronounced, and it makes no sense to have that kind of a Byzantine system for, and, you know, fragmentary system for regulation. So we have federal regulation of cellular.

But we, we actually have a crisis in this country with this, and there's this wonderful paper by Prescott and Ohanian, and the third author, a couple years ago, that looked at zoning regulations. Okay, which are the classic NIMBYism, at the local level. It specifically looked at, actually, state zoning and said that fully one-half of the missing income this, this crisis in income inequality that's been seen in the stagnation of median incomes in the United States over the last 40 years—fully one-half of it could be explained by land use laws that keep people in low-wage jurisdictions from moving to high-wage jurisdictions.

Look at Silicon Valley in the United States. See what we've done with land use at the local level. Go to Shenzhen, China and see their Silicon Valley, and see what they've done with land use, and you'll be shocked to know that a communist government has been vastly more efficient in allocating scarce resources in that particular context, and that's the NIMBYism of localism.

So, I'm very much sympathetic to the laboratories-of-democracy rationale and competition between jurisdictions, and of course there are many things—health, safety, and welfare—that can be better done, and should be left—and there should be a competitive, you know, competitive world between jurisdictions.

And I think States can—they're not, they're not competing for the products they're competing for the innovators, they're competing for the, for the entrepreneurship to bring in, in Arizona and so forth, and I think that that's

certainly, that's a very powerful argument many—but this, this is a trade-off where you do have to look at the particulars of a situation, and I think in a lot of cases for new technologies that, that some federal preemption will be better—not perfect, there's no Nirvana either side.

But, as I say, if you know you want to, want to get horrors of federal mistakes, yes, you can do that. And we should do—we should have alcohol to help us along in those discussions—they're gonna go on for a long time, they're gonna get better as you go, so you need to drink but, but there's also problems with local jurisdictions.

And, you know what, I mean anybody who's honest knows that there has to be a restriction, a constitutional regime that limits the rent-seeking, and what you have—sometimes you say, well California is doing well and they have a lot of regulation. They have the natural resource curse, if you, if you want to, if you want to get to it, a lot of oil-rich states do a lot of terrible things, and they grow and they prosper. And people move there, by the way.

So, by a lot of metrics, political scientists know there is a natural resource curse. Lots of bad things happen when there's too much at stake for the ruling regime and sometimes that can be a problem, you know, even in California, even in countries like this.

So, you know, I think it's a very nuanced question. So, you know, so I mean it really is something that—by the way I did I did get a lot out of this panel, I think, and you have great arguments either way. But, I just wanted to . . .

McNeal: So I take the question as do you want a drink?

(Laughter.)

AUDIENCE MEMBER: And what's your answer?

McNEAL: Of course. So I would say that I think I agree with a lot of that because the—just for me, because I was fired up to fire up the firing up—I agree with a lot of that.

There are interesting corner cases, for example, on cellular—that I think maybe Brooks might want to talk to—which is just like the location of the cellular towers themselves and the impact that might have visually on a community, and that is land use and zoning being used as a backdoor way of regulating the technology itself.

But let's kind of have some reactions to this because I think this is an area where we have probably agreement with, with Tom, and then . . .

AUDIENCE MEMBER: I know I talked too long to begin with; I have on that point and cellular sightings—yes and of course there happened federal rulings on this, both from courts and the FCC, that was some kind of aesthetic concern—certain regulations are perfectly permissible.

You know, Williamsburg, Virginia has the right to limit satellite dishes even though it's anti-competitive in a, in a real sense, but other communities don't because they don't have the same aesthetic concerns. That's a federal rule.

Now, what I wanted to mention too was, now we do have an extraction problem very similar to the cable problems at the franchising issues on 5G. And there was a trade journal article a few months ago where the city of Sacramento was reported to have gotten a private company to come in and, very efficiently, start the process of this huge, you know, 5G densification they're gonna have 10, 10X base stations—this is the huge payoff local cells—and so you've got all these new cells going in, so you've got lots of new antennas, and there's a permitting process and now there's a question of, what are the fees?

Now a lot of cities maintain, we just want to get maximum value for the community. And they mean by that highest dollar cost—in terms of what the fees are—to gain access to public rights-of-way.

That is completely wrong. That is, that is anti-consumer and hostile to the citizens. That is a rent-seeking device to monopolize that market. What you want to do is have costs equal to marginal cost so that the public disruption and the resources taken by the competitors are rationally allocated, but you want competition.

And I was just gonna say, in Sacramento what they did is they got a private firm to come in—it was private privatization they contracted with a private firm, one-stop shopping the new firms, Verizon, whoever can come in and get permitted—and, and this firm charges the fees and splits the fees, 70/30 or something, with the county. And so they didn't say who set the fee in the article, I emailed the author, I said, "Who sets the fee?" He said, "I have to ask." He said, "Never came up." So obviously they have a private company setting the fee; it's gonna be a monopoly price. This idea that there's, you know, this extraction taking place is visible. That has to be stopped for efficiency, for consumer welfare, for innovation.

If you can do it with a federal rule, I think I'd probably be in favor of federal preemption if the cities can figure out a way to have some more pro-consumer attitudes on that.

McNEAL: So Brooks, maybe so this question, it's largely wrapped up in rent-seeking and the permit power of cities. It's a little bit about a heckler's veto, but let's uh.

RAINWATER: So, I mean, on the whole I think I would say democracy is messy. And I think that, ultimately, there are, kind of, challenges at every level of government.

Just as you can give the stories about what's happened with cable franchise fees, I could talk about high-speed broadband internet, and the fact that states like Tennessee have stopped Chattanooga from being able to expand its municipal broadband into neighboring jurisdictions. Even though, on the whole, the neighboring jurisdictions were quite conservative and wanted to be able to tap into this arguably municipal resource that could help them.

And so I think that, yes, there are challenges with cities on rent-seeking. But I think there's also examples where—if we could all agree that we should just get rid of non-competes overall—the states that are doing that could be leading the way for creating so much more economic value.

So, ultimately, let's think about where this is happening best; there will be kind of challenges at every level of government. But it doesn't seem to me that cities are kind of the piece that's creating the most friction.

WATNEY: I think that that's a good point. The thing I kinda wanted to go back to a little bit is, hopefully the framework articulated can help us also know how—which layer of the technology to regulate at which level. Right?

So, using cars as an example, you know, the National Highway Traffic Safety Administration regulates everything related to, like, the safety of the actual automobile—because that's both where the larger network effects are and where it's most costly to differentiate across different jurisdictions.

And if you were to take that to, like, you know, a drone example, I think you can have totally different time, place, and manner restrictions on an individual level. Cities are obviously going to know where would be the most disruptive places to have drones flying around at night, you know, D.C. has a rule saying you can't, like, park your scooter, like, on the National Mall—that seems fine—but that's gonna differ from city to city.

But if you had cities trying to regulate, like, the actual manufacturing requirements of what these scooters or these drones were looking like, that would start to disrupt the network effects and the costs of differentiation across jurisdictions. And so, I'm hoping that it can, not only help us, you know, determine what technologies to preempt versus not, but also the types of regulation to preempt versus where to allow federalism.

McNEAL: I think we have time for one last question or comment. There's one up there. Microphone is on its way.

AUDIENCE MEMBER: Thank you. It's been my experience, I'm sure many of yours as well, that regulatory law always is very slow to catch up to technology.

And I'm from the city of San Diego; I work downtown where about a year ago, a little more than a year ago, the Dhokla spikes magically appeared on the streets one day followed shortly by the number of thousands of Bird scooters. They seemed to be everywhere, and the city of San Diego in the mayor's office and the city attorney had zero regulations whatsoever. They just let them show up one day.

And now we're a year down the road, and of course there's been car accidents, personal injury matters, etc., and they're now realizing they need to regulate these scooters, primarily scooters, in San Diego.

So my question for the panel is this: how do we ensure that we kind of the law keeps up with technology and we have efficient regulations from the start of these great new technologies that we're seeing in many different aspects of our society rather than just lagging behind?

Because right now it's turned into kind of a huge mess, and the debate the primary users of the scooters in downtown San Diego are Millennials that live downtown and, of course, they're older people like myself and business owners and property owners that hate the scooters and want them gone completely. So now there's this huge tug-of-war and it's getting very political as opposed to having a good efficient regulatory system in place when these technologies start.

GOODWIN: Yes, so my response to that is everyone wants to give their power to the Ring of Power. They want that magical expert to come up with an efficient governance scheme and even better that that scheme be in place prior to an emerging technology coming into existence.

That's a great vision, but it's a great vision that will result in those emerging technologies never coming into existence. And so my admonition to you is not particularly comforting, but it's a recommendation that you have to embrace the political.

And I would much rather there have the political be a local political dispute than what we have at the national level. The last thing I want is a national scooter policy. I mean God forbid; the homogeneity of modern America is bad enough as it is. The last thing I want is some version of, you know, communist capitalism that gives us all a pseudo-efficient, you know, bland America where . . .

McNEAL: The Feinstein-McConnell scooter bill.

(Laughter.)

GOODWIN: . . . everywhere you go you have access to just the right amount of scooters is exactly the kind of dystopia that I fear; rather, I think that we should be encouraging communities to engage and take ownership of these issues. And better yet the actual individuals subordinate to the political jurisdiction to come up with solutions and remedies, and then find local first attempts at solutions.

Yes, there are many enormous costs. I mean, I've led with the example of the obvious rent-seeking that folks engage in. One of the best examples that I was ever involved in locally was a client, who had been recently shut out of a local trash market, sent me to a hearing about, you know, some complaints that had been raised about a competitor. And it was a landfill hearing on a Wednesday night, and if you've ever known that you've made like wrong choices in your life, it's when you're at an SCAQMD hearing on a Wednesday night at 9:00 PM thinking "where did I go wrong?"

But it got worse because a bunch of—in this quasi, you know, judicial proceeding—a bunch of folks came up to testify that know they lived right next to the landfill and they couldn't smell anything, and they never heard the competitor's trucks. They must be really quiet trash trucks.

And every interview would end with, "and who do you work for?"; and they'd say "the trash company." And it was it was an example of exactly what you don't want to have happen at the at the local level. So I yield to no one in my fear and concern for the capacity of rent-seeking; however, that's where the battle should happen, because I can wake up and, you know—I haven't

gone to bed at 8:00 PM on a Wednesday—but I can go to that hearing, and I can influence the outcome.

I can't influence almost anything in Sacramento and certainly nothing in DC. So, let's beware of, you know, ceding our authority to the Ring of Power and embrace the political fights, which are messy and they're unfortunate, but I think that's what we need a lot more of.

HAGEMANN: I would agree wholeheartedly with Bill. I will caveat what I'm about to say by noting that I made a promise to myself not so long ago that I would never comment specifically on these scooters because I just don't care to.

So as a general matter on the issue of how it is you plug that discrepancy in the pacing problem that you identified, I agree with Bill wholeheartedly: what you really want to do is you want to focus on regulatory regimes that exist at as local level as humanly possible, because they afford greater responsiveness to local political machinery and the local population.

And so the feedback mechanism is much shorter, so you can actually get more flexible rules that respond to demands at a much greater speed than you can say through, you know, any standard APA rulemaking process at the federal level, especially when considering the disparities in the amount of power and influence and resources that are required in order to lobby at the federal level versus the local level.

I think it just makes natural sense that, if it was me, I would have a piece of federal legislation that would basically say for all new emerging technologies that have no existing federal agency apparatus to oversee their operation, automatic authority just evolves to the states who are then empowered to further empower municipalities if it's a Dillon rule state; if it's a home rule state, then to the municipality go forth.

RAINWATER: So, I think this may be something where we all agree because what you both are saying just makes a ton of sense.

And I think also as we think about emerging technologies, the venture capital fueled model actually takes into consideration kind of the legal and political arbitrage that's gonna happen in any given city because they are thinking that, you know, you're gonna go into some cities where you might drop six hundred scooters, and the city just takes them all and impounds them or fines you every day because you've gone in and kind of broken the law.

And so I do think that, you know, the law is catching up rather quickly

and I think that we probably need to have it catch up even quicker, but having this happen and kind of play out within the city context will ultimately get us to a better place.

And I would also just mention, kind of a quick aside, that it was probably about five years ago when I was at a rather large tech firm that is an autonomous vehicle space and one of their key people made the comment that we're gonna put these cars on the street, and then we're gonna figure out the legal implications afterwards. So, I think this has been going on for quite some time.

WATNEY: Um.

McNEAL: Anything?

(Laughter.)

WATNEY: Yeah, so the other thing I would add just as I'm thinking. I think there can also be, I think, fruitful ways for maybe the federal government to incentivize experimentation without necessarily dictating a model.

Because you also run into the problem where oftentimes like local regimes can get very stuck in their ways, they don't want to change. NIMBYism is a great example. And if you're concerned about the fact that we don't know what one model is the best to impose over an entire country, you can incentivize experimentation, right?

So you've seen bills to kind of do that with bail reform. You know, criminal justice is an inherently very local level, but you've seen a couple bills to basically provide money and incentives to states to experiment with, you know, removing cash bail, or replacing it with something, or seeing if there's a better way to target it to actually assess the risk that it's happening.

And I think you could imagine something similar happening for, you know, urban housing reform, for emerging technology legislative frameworks. And that also kind of gets back to the idea of how early are we in the technologies development; I think if you had like a general timeline of very emerging technologies or, you know, mature technology, probably on average emerging technology.

Although Siegel's gonna prefer federalized approach because we just don't know, but then again as it gets more mature, and as you know the heckler's veto issues start increasing, then that may be a time to reconsider.

McNEAL: I guess I'll just offer you a little bit of hope on the way that this worked out. You mentioned that businesses and others in the community have been concerned about the way scooters were deployed in the way that it occurred.

If you imagine an alternative scenario where prior to anyone in the city of San Diego ever seeing a scooter, a scooter company went in and sat down with the government and got the regulation or the government started to deal with regulations prompted by the most interested party who cared the most about scooters the population who had never seen them and the company planning to deploy them—what would that regulation look like, right?

As opposed to now where people have seen the negative externalities of the technology, and they actually have something to say about where the technology will be and what not.

So you might actually now, with democratic participation—interested constituents, get a better more optimal outcome than you otherwise would have. A few people along the way have been hurt and hopefully the tort system is going to allow, you know, them to recover further injuries along the way.

But you might get a better regulatory regime now, with the lessons learned, than you would have had we had an ex ante regime that was put in place by only the interested party who cared to show up at the hearing when nobody else knew the thing that was coming.

Well hopefully you'll join me in thanking our panelists.

(Applause.)

***