

Borrowed Wheels

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Greg Dalton: Welcome to Climate One, a conversation about America's energy, economy, and environment. To understand any of them, you have to understand them all. I'm Greg Dalton.

Today, we're discussing a new means of personal mobility. A few decades ago, if you didn't have a car and there wasn't a bus nearby, you might have had to stick your thumb out on the side of the road. Today, you can employ your fingers by opening a smart phone app in finding a ride across town or across the country. If you want to drive, you can do that too in a car owned by a company or a neighbor. Over the next hour, we'll discuss the transportation piece of the Sharing Economy with our live audience here at the Commonwealth Club in San Francisco.

We're pleased to have with us four people who are at the forefront of these innovations. Rick Hutchinson is CEO of City CarShare. Sunil Paul is CEO of SideCar, a ride-sharing company in San Francisco and a handful of other cities. We also have with us Susan Shaheen, co-director of the Transportation and Sustainability Research Center at UC Berkeley and we also have Kristin Sverchek, the head of public policy at Lyft and Zimride. Please welcome them to Climate One.

[Applause]

Greg Dalton: I'd like to start briefly by asking you how you kind of got into this part of the sharing economy and car sharing and Susan Shaheen, you've been doing this a very long time. Tell us briefly how you got into this new area quite some time ago.

Susan Shaheen: So I've been researching car sharing and shared used vehicles since for about 17 years, which seems like a really long time, and I thought it made tremendous sense after I saw a presentation about car sharing systems by Michael Glotz-Richter, who came over from the city of Bremen on a German Marshal fellowship he lectured at the University of California Davis. I heard his lecture and I said, "Aha! This is my dissertation topic." And I was challenged by my dissertation committee who said there's no way Americans will give up their cars. And I thought there might be a chance and I never looked back.

Greg Dalton: So you wanted to prove your dissertation committee wrong. Okay.

Susan Shaheen: Yes.

Greg Dalton: Sunil Paul, you were an investor and then you had a previous incarnation. I believe it was Stride? Was it another company? So, tell us how you got into the sharing economy and ride sharing.

Sunil Paul: Well actually, my story begins way back in 1997, believe it or not. I had just moved to San Francisco. Me and my wife had one car between us. And one day as I was waiting to be picked up, I had a little epiphany. But before that, I had a little idea which was I need to get another car.
[Laughter]

But the little epiphany was some day, my phone's gonna know where I am and all those who are driving by, all their phones are gonna know where they are. And I started thinking, "Wow. Someday, we're gonna rethink transportation around this idea." It led me to kind of work through

those ideas, I got a patent in 2002, I ran into the founders of City CarShare like, "Okay, here's another example information technology rethinking transportation." I was on the board of City CarShare for several years, got involved and taught at University to get around the students -- the students went and created to get around, as Stride as the company that we tried incubating and decide not to pursue, also got a law passed here in California that enables peer-to-peer sharing, AB 1871.

So, my interest in this category in this category has been around for a long time. I think that ride-sharing, which is what SideCar does, is an opportunity to really expand this opportunity very, very rapidly and aggressively around the world.

Greg Dalton: Excellent. And Rick, let's ask you how you got into this space -- you're non-profit, how did you get into this place of ride-sharing, of car sharing.

Rick Hutchinson: Well, City CarShare was started by a couple of local activists back in the late '90s and they actually put cars on the road here in 2001. So we're about 12 years old. I'm a reformed banker and I made my way out here, did a couple of start-ups, and then ran into people like Sunil who were doing some pretty amazing things in the space of -- the environmental space but also around innovation and technology. So, City CarShare had lost its executive director and after a little dance, I decided to join in and the rest is history. It's been seven years.

Greg Dalton: Okay. We'll get into it a little bit more about car sharing and ride sharing et cetera in this part of Sharing Economy, Kristen Sverchek, how did you come to the space of ride sharing and car sharing?

Kristin Sverchek: Yeah. So, I initially was outside counsel to a number of the, kind of high flying collaborative consumption companies, TaskRabbit and Zimride being among them, also representative investors and companies like Wheelz, had started working with Zimride back in 2010. Zimride and Lyft are one and the same, and grew closer and closer with the founders. Really sought a vision what they were doing over the last couple of years. I came on board full-time about three months ago to head up legal and public policy matters.

Greg Dalton: Great. All right. So let's get some of the basic terms here and sort of set the table.

Susan Shaheen, you've been studying this a long time. Can you kind of outline for us car-sharing, ride-sharing, some of the key terms and then we can dive into how they're changed in the way people get around the world.

Susan Shaheen: So, the definition of what we call classic car-sharing is fairly simple. It's the shared use of a vehicle fleet --

Greg Dalton: We need to put your mic -- we need to put your mic on, yeah.

Susan Shaheen: Okay. The shared use of a vehicle fleet by a group of members. They frequently pay an annual fee, a monthly fee and typically pay by the hour and in some cases, by mileage like in the City CarShare case. There's a couple of new flavors of car-sharing that you've heard mentioned and one is the peer-to-peer car sharing concept, and that's the idea of people putting their own personal vehicles into these car-sharing fleets. And we've also seen a new form called "One Way" and companies like Car2Go are out there, that's a Daimler product, and BMW DriveNow is also operating here in the city and that's the One Way model.

So, in Rick's model, which is a more classic car-sharing model, individuals go into and out of the same location for their access to the vehicle. With One Way, you actually can take the vehicle from

one location to another. So, there's a lot of tremendous innovation happening in the car sharing space right now and there's a lot of confusion about definitions and impacts and it's causing some flurry of activity here, it -- actually in San Francisco. And in terms of ride-sharing, there's a couple of different flavors of that.

It starts with the most simple, which is a fam-pool. So, a family actually sharing a vehicle and taking children to and from school, maybe with neighbors, and it also moves into more of a classic carpooling situation where people are sharing a vehicle that they're carpooling for work trips or a more regular trips.

There's longer distance carpooling trips and what we're starting to see are tremendous amount of innovation in, which is represented by SideCar and Lyft, my colleagues here, is this idea of real time ride-sharing. So, very dynamic, very instant. So, what we're seeing, in my opinion is the growth and development of the shared use of mobility space. And we don't exactly know how it's gonna shape out. We've got a lot of work ahead, particularly in a public policy arena.

Greg Dalton: So, because it's been around the long time, taxis, SuperShuttle, right? I mean, that sort of -- we go into the airport sharing event, that sort of thing. So why is this all happening now? Is it the technology? Is it hard economic times, it's -- it's kind of making people more cost-conscious, Sunil? What sort of driving it?

Sunil Paul: I think there's three things that have changed. I actually looked at doing something like this in '99 and decided not to for three reasons. All of which have changed. One, technology was not ready. So, the smartphone platforms and having them be open, there actually have been smartphones for a very long time. What's changed is that you can now have access to them without having to convince some big, huge company, the telecom carrier, to cooperate with you. You can publish it to the iTunes store, you can publish it to the Android store and more coming.

The second is that there's interest on the part of everyday people in new forms of transportation. I mean, I think this is the -- we have more willingness to experiment with transportation right now, than at any times since before World War II. Since that time, we pretty much accepted that automobile is the way it's gonna be. It was the dominant technology of our era.

Greg Dalton: And owning that automobile.

Sunil Paul: Yeah. That's right. The car that you own. And for the first time, because of this technology and because things like climate change, things like energy security, there is a willingness to try new things and technology as well. (00:10:04)

Things like electric vehicles et cetera. And the third thing is there's political will to try new things for the same reasons climate change and energy security, there is a political will to experiment. I mean, a quick anecdote, when I was advocating for AB 1871, I was sent in to a Republican's office because well, I probably shouldn't say publicly all the reasons why I was sent in. But --

Greg Dalton: There seems a lot of change the way insurance is handled. Is that what that was --

Sunil Paul: Yes.

Greg Dalton: Okay.

Sunil Paul: And the insurance companies could have easily killed this bill, I was told, with a single phone call, and I was told also that these Republicans were, you know, very amenable to the interest of the insurance companies. So I went in, I met with a staffer and I was prepared for all my

arguments. First words out of her mouth were, this is the way that the future -- insurance companies needed to figure it out and get on board.

To me, that was an indication of, okay, this is a willingness to try new things in transportation.

There is a willingness to accept that, "Look, the smartphone and information technology is the way of the future." We are going to reorganize our entire society around this stuff, and transportation is one of those things. We've already done it with media and shopping and all manner of things.

Transportation is merely the next big category to be transformed.

Greg Dalton: One person at Google Ventures said that in five years, your car will be your smartphone. What does that mean? I mean, that means self-driving cars, does that mean more displays in the car, what does that mean?

Sunil Paul: I know what it means for us. When we say that, we are talking about it.

Today, when you want to do anything in modern life, whether you want to get food from the grocery store, you want to get to work and/or income, you want to go out on a date, everything is mediated by the automobile. And now, everything is gonna be mediated by your smartphone. You are going to be able to get the mobility you need to -- whether it's going grocery shopping or going out on a date or getting to work, all of that is gonna be possible through your smartphone.

Greg Dalton: Fascinating. Let's talk about, you know, the size of this market. Do we know how big this market is right now? I mean, personal mobility or car sharing, there's lots of companies, they're pretty small. Zipcar is one of the large ones. Do we know how big it is?

Susan Shaheen: Yes. This is what I do.

[Laughter]

I track these numbers for the industry. That's why Greg looked at me. So, interesting news. I have not shared this with the public or the media yet. We just did our data collection for January of 2013 and North America has surpassed the million mark for car-sharing members. That includes Mexico, which is quite small one program, Canada, and the U.S. The U.S. is around 800,000 members or about 820,000 members.

Greg Dalton: So, a million people are a member of you said, car or ride-sharing?

Susan Shaheen: Car-sharing.

Greg Dalton: Car-sharing. Okay. So that's the Zipcar, City CarShare.

Sunil Paul: That's tremendous growth, right? From, I -- I don't know the others.

Susan Shaheen: It has been growing. It has been growing and really, since we've started our tracking efforts in the late '90s, we have really never seen a decline. We've seen ongoing growth. I do think that this product though, this service could scale much bigger than what we see today and one of the concerns I have is how do we look at this from a public policy standpoint to make it more possible to grow those numbers even bigger. Yeah. I'm very interested in the question of scalability now, where I used to be very interested in the question of impacts. How does this impact society and the environment. Now, I'm also really moving in to scale.

Greg Dalton: And who -- and who are those people? Who are those million people? Are they all people who live in urban area, basically people under 40 who live in urban areas?

Susan Shaheen: Those tend to be some of the common demographics and I think there's a chance and the opportunity to grow much beyond that through innovations in the business models and changes in the overall approach and I think everybody here on this panel represents that change.

Greg Dalton: And then, what do they -- what are the impacts of that change on existing businesses, car companies, we talked a little bit about insurance companies. Are there car companies gonna sell fewer cars?

Susan Shaheen: They could sell more cars if they put them into car-sharing systems and so we see a number of automakers who are very interested in actually providing these services. As I mentioned, Daimler is putting smart vehicles out there. And BMW is putting electric vehicles out there. So, you think it'd actually be a service provider as well as a vehicle provider but, you know, folks like Rick need to have cars in his fleet. So there's an opportunity for them to develop a new core competency in their business called Mobility Services.

Ultimately, there may be an impact in the total size of vehicles available but, you know, we're looking at a changing world where people are moving more into urban areas. So, there's limited space, and we're also facing energy issues and climate change issues that are also gonna impact the future. So, I think the role of the automobiles is changing as well as the role of the car rental.

Greg Dalton: Bill Ford, the chairman of Ford Motor Company was here recently, about last year or so, it may perhaps be before, and said, "car sharing's gonna happen whether we like it or not, so we might as well be part of it." Sunil Paul, is this gonna -- I mean, were you concerned about carbon, is this ultimately gonna reduce vehicle miles traveled, the number of cars out there or is this just gonna be growing -- people are gonna be moving around more because it's easier to do?

Sunil Paul: Well, it's an excellent question. I think that there is, you know, there is this potential paradox of as you make things more efficient, people tend to use them more. I do think that in the case of what we're doing, specifically with ride-sharing, there is an opportunity to reduce emissions and reduce congestion. And it has to do the way that we do it. Passengers must enter their destination and drivers can see what that destination is. So, we'd like to say that the good of the nation requires destination. And that is basically conveying that if you really want -- if you can actually make the ride shared, then you can have reductions in emissions -- you can have reductions in congestion. But if you can't have that kind of sharing, then you're not gonna get those benefits.

Greg Dalton: So is this someone who's commuting from San Francisco to the East Bay or is this like a daily commute scenario? Is that what this -- the sort of -- typical use cases for someone who's going down to one on one and they want to get in the car pooling and that sort of things of its ends?

Sunil Paul: We've got a number of different people. So we've created a platform and it allows people to indicate, here's where I am, here's where I want to go and for drivers, to be able to see that where that pickup point and destination is, and if that's a convenient trip for them, they'll accept it. So, there's a guy we have in our system named Nick, who works in Mountain View. He lives in the city, he turns on the app for the morning, he looks for somebody going south, he picks him up, drops him off along the way and continues onto his job. So that's one use case. There are other times when people are just turning it on to get out of the house and give rides to people just because they like meeting people and it's a way to make a little extra money to offset the car cost.

Greg Dalton: Kristin Sverchek, is that also a motivation for Lyft, which has those distinctive banner -- pink moustaches on the front? Yeah?

Kristin Sverchek: Pink furry car-staches. [Laughter]

Greg Dalton: Is that car-staches? Is that what they're called? Is it the extra money that's a big motivator?

Kristin Sverchek: I think there's a number of motivators. One of them certainly is the opportunity to make a little extra as Sunil said, to offset your car cost. I think people also believe in the long-term vision of the company, which would be, to have a net effect in reducing vehicle miles travelled and greenhouse gas and emission reduction as well.

Greg Dalton: But how does that really works? So if I hop in Lyft, and that car might have been otherwise sitting in the garage, I might have taken a taxi, the taxi's still out there driving around. So, it's possible that this could actually increase greenhouse gas as more cars buzzing around. But my car sitting in the garage, I'm gonna drive it and make some money.

Kristin Sverchek: Yeah. That's a great question and this is actually something we've talked a lot about with Susan in the past and I believe initially with car-sharing, there was a similar problem. When you have these vehicles available to people who maybe otherwise did not have a vehicle available, you are initially putting more cars on the road. But in the long-term, once you reach critical mass, you are having an overall positive net effect. And that would be our long-term vision as well.

Greg Dalton: Is that true, is that what happens, Susan?

Susan Shaheen: Yeah. Yeah. A lot of times, the early adopters of car-sharing systems in the city are people who never have access to a car. So, it's not surprising to see an increase in vehicle miles travelled. But where the real gain and opportunity is for reduction in vehicle miles travelled is to actually get people to sell cars or to postpone car purchases.

And one of our recent studies which included City CarShare as well as all the major car sharing companies revealed that car -- one car-sharing vehicle takes 9 to 13 vehicles off the road, and actually causes people to sell four to six vehicles of that 9-to 13. This is where we see from the metrics, the data having a net effect, where some people are actually -- from zero car households but the total net effect is actually positive towards the environment. This recent study showed approximately a 43 percent reduction in CO2 emissions as a result of those postponed, as well as actual car purchases.

Greg Dalton: Rick Hutchinson, you also have some data on City CarShare and its impact and what it displaces in terms of carbon and vehicles miles travelled.

Rick Hutchinson: Right. So, in the Bay Area, we're basically ground central here for car-sharing, ride-sharing, peer to peer car-sharing. There are more companies here in the Bay Area offering services that allow people not to have to own a car. Or at least to get rid of a car. For City CarShare, we've been experiencing that for years. In fact, about two-thirds of our members say that they either sold the car or delayed buying a car once they joined us. A study done by Robert Severo back in the early 2000s and finished in 2006, is basically the -- it's the only longitudinal study that I know of, unless you know something else.

Susan Shaheen: No.

Rick Hutchinson: And it showed cars taken off the road. It showed that a greener ride, meaning greener cars can have a material impact on reduction of greenhouse gas emissions. City CarShare last year and this is based on the Severo report and on work that Susan Shaheen has done as well as Nelson Nygaard, we saved about 80 million pounds of CO2 emissions.

Every day, 80,000 fewer miles are driven on Bay Area roads due to City CarShare members. You asked a question earlier about growth. There has been tremendous growth. When I joined in 2005, I had a number, 3200 -- 3205 actually. Last year, we issued number 40,000. So, there's been tremendous growth in car sharing. Every single one of those members is likely to have gotten rid of a car, not buying a car or is thinking about getting rid of another car. So therefore, you have -- not only reduction in greenhouse gas emissions but in all of the CO2 that is released and actually the production of those vehicles that would have been purchased.

Greg Dalton: And you claim that your non-profit car-sharing service is actually greener than for-profit car-sharing services. How?

Rick Hutchinson: Well, I don't -- I don't claim it. I'm using some study information that came out of a Susan Shaheen study that showed that -- this is back in 2008, that showed that non-profit car sharing organization do save more greenhouse gas emissions than for-profits. Now, what's the reason for that? I think there are several reasons for it and the main one from City CarShare's point of view is that we just have the greenest fleet in the industry. Forty-five percent of our cars are hybrids, plug-in electric vehicles or electric vehicles. When we look at the -- just based on EPA standards that our fleet is about 35 to 40 percent, more fuel and emission-efficient than the standard car on the road today.

Greg Dalton: I will say as a former City CarShare member that I drove around in smaller cars but I probably wouldn't buy those cars but yeah, driving around them. So, Susan Shaheen, is that true that what -- for-profit companies don't want to buy the greenest cars because it doesn't pencil out, they're looking to maximize their profit? Is that --

Susan Shaheen: What I would say is that the data showed that both for profits and non-profits had a net negative effect of producing CO2 emissions or positive effect for the environment.

And we did see that this effect was higher for the non-profits, I have another hypothesis in addition to the dynamics of the fleet, and Zipcar and other organizations that are in for profit realm also have clean cars. This is an explanatory variable but I also think the pricing of how City CarShare prices has an impact because they actually do charge by mile and I think that has an impact on the total number of miles driven by a City CarShare vehicle, where that is contained more inside of the pricing of a for-profit company. Does that make sense?

Greg Dalton: Sure. Yeah. It costs more to go certain distances. But let's ask Kristin Sverchek that for Relay Rides and some of these other models, Lyft, or people using their own car, they may not be the most cleanest new hybrid, et cetera. They might be that, you know, just judging by some of the pink moustaches I've seen around time. [Laughter] Is there an incentive to be clean and green in the Lyft model?

Kristin Sverchek: You know, as far as not with respect to the way that City CarShare is doing it, but I think that what's clean and green about it is that you have less single occupant vehicles on the road. So hopefully, less vehicles total, more people using their vehicles in an efficient way. So even if you're not driving a Prius, you maybe are taking another car off the road.

Greg Dalton: I read a statistic that 80 percent of the car seats -- car seat miles of this country are empty.

Kristin Sverchek: That's right.

Greg Dalton: -- which doesn't make sense. You think about it, 20 percent, five-passenger car.

Most cars out there have single -- you know, during rush hour has -- so we're talking about a pretty big cultural change here for all of those people who are used to listening to NPR -- we love them.
[Laughter]

Or sports radio or other things and picking up a stranger and like, "Do I really want to talk to you all the way to San Jose? Really?" I mean, I'm just curious in how this is working culturally to all of a sudden, ride with strangers and make that kind of commitment.

Sunil Paul: You know, it's --

Greg Dalton: Sunil?

Sunil Paul: I think it's working remarkably well 'cause I think there's this whole culture that, you know -- I'm old enough to remember, Texas Chainsaw Massacre.

And there is -- one of the things that surprised me about SideCar, is that we put all these safety measures into place and people have taken to it because the background check of the driver or the photo of the driver, the rating systems, the -- you know, all of these systems have I think, have built confidence that this is a safe system. And also, when we surveyed SideCar users, 71 percent think that it's safer. They feel safer in a ride that they matched through SideCar, than in a taxi. And that's in -- and we've only been around for less than a year of offering this matching service.

Greg Dalton: As someone who recently took my first thrilling ride in Uber, another company that's kind of a real-time, dynamic, basically displacing a taxi, I like the fact that I can see the guy's face before he picks me up and that I have his information afterwards, I'm thinking that probably moderates that drivers and I get to check one or five stars that has a moderating effect on that person's behavior -- yakking on the cellphone, driving kind of crazy. So there's -- I think trust seems to be a big part of this, confident use -- use confidence. I say trust in terms of -- or accountability in both directions to making this work.

Sunil Paul: We have this new model of trust that's now possible and it's because of social media broadly. Just the ability for feedback like -- basically, there's very little accountability before. Casual Carpool here in the Bay Area, transport is about 5,000 people a day.

With really no accountability for who that driver is and --

Greg Dalton: That's where you wait in line on the side of the road, car pulls up, you hop in, you don't know who they are, you're just hoping that -- you know.

Sunil Paul: That's right. And it's similar to Slug-Lines in D.C. and Casual Carpool in San Diego. So, we really took that model and said, "Gee, can we take that and make it possible to work across the entire Bay Area and around the entire country?" And the answer is yes, it's working and it's spreading very rapidly.

Greg Dalton: And it's spreading rapidly that's also causing some resistance from established industries and regulators. So, let's talk about the yellow cabs and who's being disrupted by this innovation. You want to have a conversation, get a cab driver to talk about Uber and some of these things and you'll get an earful. So let's talk about sort of the incumbent, defending their territory, how's that playing out.

Sunil Paul: Well, this is -- it is --

Greg Dalton: Disruption 101.

Sunil Paul: A battle that happens a lot, which is, the industries that see new innovation, they want to resist it and they use every means possible but they can't. You know, I think another example of this is what happened with Voice Over IP? Things like Skype, offer this amazing service, amazing advantage for consumers. And the telcos, you know, AT&T and all the rest, really resisted it and they used organizations like the PUC to help resist that change. I think a similar dynamic is at work right now where we've got objections, you know, the objections that are made against us and Lyft and Uber, don't come from the public. They come from, you know, people who have a lot to lose by having innovation happening to a market place.

Greg Dalton: And that's been pricey for you. You've been fined, what, \$20,000? I read one figure that's -- the regulatory issues in California have caused you half a million dollars fighting some of the fines --

Sunil Paul: Yeah. The fines -- the fines -- so here's something just to recap. The California regulator's PUC have sent cease and desist notices to us, Uber, Lyft and Tickengo, fines three of us. And while there are those fines out there, to be honest, what's very expensive and, you know, we haven't paid these fines, what's really expensive is simply, engaging with regulators. I mean, we are a start-up -- we are --

Greg Dalton: The lawyers are expensive.

Sunil Paul: We have lawyers -- just the bandwidth of having to pay attention to it, that is the expensive part. And we are innovators, we are looking for new ways to make the systems better and really transform transportation. and here's, you know, we estimate about \$5,000 that have gone towards these regulatory engagements.

Greg Dalton: And what's their beef that you're not regulated, that your -- what's the problem?

Sunil Paul: Well, I think the -- you know, the D.C. --

Greg Dalton: You don't have a license to do what you're doing?

Sunil Paul: The PUC basically sent us a note saying that we should stop operating because we don't have a license for what they referred to as a charter-party carrier, which is kind of a regulatory code thing for the same as a limo company. And, you know, we had a response saying, there's nothing to cease and desist. We don't have any cars, we don't have any drivers. I mean, we are an information provider. We provide marching up of riders and drivers. And so I think there's been a fundamental -- this is a new medium and this new medium needs new rules. That viewpoint is one that I think regulators in the beginning don't understand. We've seen the same thing in Philadelphia, in Austin, and on [crosstalk]--

Greg Dalton: In Austin, they're trying to make it illegal. In Philadelphia, they did a sting operation on your company.

Sunil Paul: Yes. So in Philadelphia, weekend before last, there was a sting operation where it wasn't against -- well I guess, from their perspective, it was against our company but they impounded the vehicles of three drivers.

They fined each of them \$1,000. Sorry -- one of them they fined \$2,000. They sent us fines as well. In Austin, they've signed a cease and desist and the city council has made it possible for the taxi enforcers to impound vehicles as well. And so, I think what happened in California is, we went from an attitude of the regulators to, "Hey, you can't do that. We're gonna shut you down," to, "Oh, okay. Wait a minute. We get it. This is a new medium. We need new rules. Let's have a conversation

about what this new medium is like, what the right rule should be for it, and how do we benefit California through this new capability." And we -- I mean, that's the approach we want. We want to talk to these folks, we're not knee-jerk libertarians. We're not saying there's no role for government. We just think that there's need to be a way to encourage innovation rather than thwart.

Greg Dalton: And Kristin Sverchek, your company I believe reached an agreement with regulators. So, what was the deal there to get them off your back?

Kristin Sverchek: Right, right. So, similar to SideCar, Lyft has a number of trust and safety components in place including DMV record checks, background checks, rating system, et cetera. And the Public Utilities Commission's number one concern is really public safety. I think they're not as focused on the entrenched interest like the taxicabs. They really care about protecting consumers. And so, once we were able to show them the various things that we do to protect consumers, we were able to come to a settlement agreement.

Greg Dalton: And -- but you agreed to -- and that agreement was not acceptable to you?

Sunil Paul: There's -- this agreement we're talking about is basically, an agreement to stay the fines and the cease and desist until the rule-making process is done.

At which point, all the stuff could basically come back if the rule-making goes against us. We -- you know, those conversations we've agreed to keep confidential, and so I'm not gonna go into the details. But I will say that we obviously have not agreed to what the PUC proposed. We have some sort of principled disagreements with what they have so far and we've -- I may end up signing it but only after we get agreement on those principles.

Greg Dalton: So, where is this growing? This is an innovation as a head of policy as often as the case, there's some incumbent industries that are fighting to protect. Susan Shaheen, you know, where is this gonna shake out? There'd be some new rules, these new industries, hopefully some jobs created in California and other places. Where is this going?

Susan Shaheen: I think we definitely have to work through this policy issues for the entire shared use mobility space. The folks in the right insurance base are hitting it first but I think a lot of questions about liability, insurance, new insurance models, new ways of doing pricing, a lot of things need to be worked out.

Greg Dalton: Those are all built around ownership, not this kind of, you know --

Susan Shaheen: Access.

Greg Dalton: Right. Access.

Susan Shaheen: Yeah. They're not -- they're not based around principles of access. And so, I think we really need to work across the industry. So there's many different players in this besides car-sharing and ride-sharing. I mean, we've got public ride sharing in it, we have new models of fractional ownership that are being developed that fit into this space. So, there's a range that could be represented and collectively, I think they have a voice, but it's difficult when you're an entrepreneur trying to run a business and get it off the ground to work out all of these legal matters and to take them on. So, I think we definitely need a new policy framework. We need a new dialogue.

And I've seen a lot of promise in regulators wanting to have that dialogue, but it's this immediate reaction that I think is really tough and is very difficult for the small companies. Because this could

stomp out innovation.

Greg Dalton: By the times rules get made? There's also --

Sunil Paul: Can I just add?

Greg Dalton: Sure, Sunil.

Sunil Paul: That this is -- we're seeing as not just in transportation. We're seeing it in with Airbnb's challenges in sharing. It is across the board. Sharing is not a crime. It is good for society and we need to figure out a way to encourage sharing innovations, not fine them.

Greg Dalton: He has a hash tag. Is it -- what's the hash tag? Defending sharing --

Sunil Paul: Defend sharing hashtag.

Greg Dalton: Right. Good. Access on Twitter on a lot of these things, sharing economy hash tag or handle --

Sunil Paul: We should get people to sign our petition, too. We've got a petition to help us with South by South West, which is coming up this weekend in Austin. You know, the timing of these actions by Austin is really unfortunate. We're planning on providing these shared rides in Austin for South by Southwest and along came all these actions. So, we would love support on our petition at change.org. You just search on SideCar, you'll see it.

Greg Dalton: Liability and insurance was mentioned earlier. I want to reference quickly, a case of -- not a company up here but a Relay Ride had a person, quite a tragic case where an MIT student and a Googler, Liz-Fong Jones, leased out her -- rented out her Honda. The driver was killed, several people were seriously injured. There's a million-dollar insurance liability, it looks like that will be exceeded. She could be on the hook financially. This is quite a case of something that no one really thought would happen but lending out your car is different than Airbnb and sort of leasing out your couch. Susan Shaheen?

Susan Shaheen: Well, I would say this echoes right back to the public policy issue, right, because Sunil talked about his work to develop peer-to-peer car sharing legislation which would help to protect consumers in a liability situation as well as protect their rights to make money off of use and access to their car. And, you know, only two other states have adopted that legislation thus far. So, in that particular state, Massachusetts, there was no protective legislation in place. So you can see, are these small companies expected to go state by state by state to develop legislation, it's gonna be impossible for them to do that. So we need to elevate this to a national dialogue, if not a higher-level dialogue as well. And the liability issues, I think, need to be addressed. And if we're only using a vehicle or accessing a vehicle for an hour or for minutes, is the current ownership insurance model the proper model? Probably not. So I think we also need to really start to look at insurance vehicles and, you know, do we need new insurance approaches, new insurance products to help promote shared use?

Greg Dalton: And will this be market-driven or regulatory driven? Because in the case of that Relay Ride case, the insurance companies are saying, "Hey, we got different clients, they're on different sides protecting different interests." So, it's hard to see that market really doing this and --

Sunil Paul: God help us if the regulators are in charge of innovation. Can you imagine if the PUC ran Twitter? I mean --

[Laughter]

Greg Dalton: So --

Sunil People: I have nothing against the PUC people. They're all --

Greg Dalton: They probably will have to sort it out.

Sunil Paul: They'll do their job, but the institution is not set up to do that. That's not their job. Their job is to protect public safety, not to encourage innovation. I'm sorry, that's just not their charge. And there has to be a way to -- the role of public policy, uphold the rule of people, is to encourage innovation. The role of our government is to encourage innovation. It has to happen through the marketplace, though.

Greg Dalton: And you think insurance companies innovate?

Susan Shaheen: Yes. Yes.

Greg Dalton: Rick -- Rick Hutchinson?

Rick Hutchinson: They're gonna have to. There's -- in insurance, you've got the commercial side and you have the personal side. And they do not meet. They don't talk of the same language even sometimes. And when you have cars involved with different regulatory environments and different states, you have a mess. And so right now, as is typical of any business that's been relatively successful along a period of time, you get inertia and they're gonna do everything they can to protect what works for them. And right now, it's not working for new mobility, it's not working for -- as far as promoting and helping innovative, new ideas get accomplished at a cost that is -- that is practical. In the peer-to-peer car sharing model right now, it's a great model, but one of the key issues that they have is that they are -- they cannot make any money with the insurance cost at the level that they're at.

I think Sunil can talk about this, I think when he penciled it out, when we penciled it out years ago, we went, "Great idea. Is it scalable? Will we ever make money?" And it's not gonna make money if the insurance regulations, insurance companies don't get -- become more innovative and don't choose to create new product quite frankly.

Greg Dalton: They took a lot of work to get people to be able to take their health insurance different places like you're talking about taking your auto or mobility insurance different places. That was a little hard --

Susan Shaheen: I do think there's gonna be innovation in insurance. You know, there's large companies that may be more resistant given their existing models and practices, but there's smaller insurance companies that may be more nimble and be able to see and pencil out the risk. I mean car sharing, Rick, you can speak to this. I mean, tremendous history of wonderful safety, good driving records.

So, there's not a lot of accidents in the shared use space, at least with respect to public, like sharing and car sharing. I know this for a fact. So, there's money to be made by the insurance industry by understanding that actuarial data, that risk data.

Greg Dalton: If you're just joining us, we're talking about car sharing at Climate One. Our guests are Susan Shaheen, co-director of the Transportation Sustainability Research Center at UC Berkeley, Kristin Svercek at Lyft and Zimride, Sunil Paul, CEO of SideCar, and Rick Hutchinson,

CEO of City CarShare. I'm Greg Dalton.

Before we go to the audience questions, I want to talk about how this is gonna affect buildings and cities and the way that we build new spaces, accommodate growth. There's gonna be a lot of new people in the Bay Area in the coming years and if we build housing and parking one to one, that has implications. Are we gonna see situations where there's painted curbs where you get special parking places if you're driving a shared car or a shared ride. So how is the land use in urban planning gonna connect with mobility as a shared service? Rick Hutchinson?

Rick Hutchinson: I'll take that. San Francisco actually has been somewhat innovative in this area. Back in 2006, the planning code was changed so that now in San Francisco, any building, commercial or residential that is built, is required to have car-sharing if they have above a certain amount of units. That kind of legislation has been -- is being studied, looked at in other venues as well. We did a pilot test on street car-sharing parking last year with the city of San Francisco. Now, this is a very interesting subject because what we're talking about is using the public right away and the public good and making it available to private companies. So, it shouldn't be taken lightly.

The fact is that there are many benefits to allowing shared vehicles of any kind to be parked in the areas where we might have some equity issues, where car sharing or car ownership is not financially viable. And therefore, being able to have on street parking or parking that is somehow either subsidized or permitted, is going to help expand car sharing and I believe some of the other models greatly. In the Bay Area, parking is one of the key aspects that creates cost for almost every model, and it's very, very difficult to find in high-demand areas.

Greg Dalton: Anyone else on that? How is it gonna change the way we build cities or respond to growth in equivalent?

Sunil Paul: I think the sharing models have a tremendous opportunity to reduce the infrastructure needs for cities. We think about -- it takes so much money, you know, it costs a million dollars a mile to build a sidewalk. Not to mention a freeway. It is incredibly expensive to build these things and public infrastructure. And so, having shared use, I mean we already have HOV lanes, having shared use of apartments through Airbnb system, having shared use of roads through a SideCar kind of system, having shared use of public infrastructure for parking spaces or car sharing, like all of these things make our public dollars go further than they would otherwise. And I think it's fundamental to especially a money-constrained environment that we are living in for the foreseeable future. Sharing has to be part of the solution.

Greg Dalton: But building developers don't like what they see as a government mandate, you got to put on sharing. Like, it messes with their economics.

Rick Hutchinson: Well, that's not necessarily true here. There are lots of developers who buy into this.

Many developers, at least in the Bay Area that I can speak best because we're local community-based organization here, but many developers get this. And they look at sharing as an amenity for their projects. The look -- they see it as an opportunity also to build less parking. Parking costs \$30,000 to \$40,000 per space. So, if you can not build those spaces and put in a few other units or even some open space, that makes a better project, and therefore, many developers have quite frankly -- are very supportive of what we're doing.

Greg Dalton: We're talking about car sharing at Climate One. We'd like to invite your participation. Don't be shy, come on up here and come to this microphone and who's gonna be the

first brave soul? And if you're on this side, we encourage you to come over to that side and the line starts with our producer, Jane Ann, who will invite you up to -- invite your question. So, while that line is forming, let's talk about the jobs impact. How many people -- we talked a little bit about little extra income, but are these companies significant job creators, job drivers? Let's get a sense of new jobs as well as sort of part-time incremental jobs. Sunil, how many employees does SideCar --

Sunil Paul: SideCar itself has about 50 employees around the country, but if you look at the kind of little extra income or offsetting of vehicle cost, you know, we're closing in on a thousand people around the country.

Greg Dalton: We heard a million members of car-sharing services. Kristin, how about jobs?

Kristin Sverchek: Our numbers are actually pretty similar to SideCar's. I think we have about 40 to 45 full-time employees at Lyft now and hundreds more receiving incremental income because of being able to ride-share.

Susan Shaheen: Exactly.

Greg Dalton: Part of the gig economy. Let's have our question. Hi. Welcome.

Female Audience: Hi. I'm wondering if any local developments have partnered with the car-sharing service and actually marketed that as a benefit?

Rick Hutchinson: Yeah, absolutely. We have several buildings in San Francisco and also over in the East Bay. There's a local developer named Patrick Kennedy who is recently -- you maybe have heard of his micro unit developments that are going up, you know?

Greg Dalton: Super small housing?

Rick Hutchinson: Super small housing. Well, Patrick has been a leader in that space, and one of the things that he pitched to the city here is, I won't build any parking. I won't build any parking. We'll use car sharing, so we'll have these micro spaces where more people can use either, you know, pied-a-terres or for specific housing needs, and --

Greg Dalton: These are housing that might fit in his parking space. [Laughter]

Rick Hutchinson: That's right. It's true. And we don't want people living in the car necessary, but it could be --

Greg Dalton: Right.

Rick Hutchinson: -- bigger than some of those spaces, yeah.

Greg Dalton: Okay. So, it can be a selling point, steal a niche and -- Susan Shaheen, anything to add with that?

Susan Shaheen: No. I've been tracking this for a long time and I see developers really getting on board with us because they can make better use of that space and provide --

Greg Dalton: But deeded parking is a selling point. When you go into a condo, the idea -- that owner is like, "Well, what if it's not a place for me to park when I come home with my Christmas tree whatever?" Deeded parking is a selling point versus shared parking. Now, this is one step further, right?

Rick Hutchinson: Well, in many cities nowadays and locally here, you have unbundled parking. So therefore, a condo that is sold or a rental apartment must separate parking and you pay a separate amount for that. So if you choose not -- if you choose to go car-free, you do not have to pay for that spot or to -- or you can buy it. At least in urban environments, that seems to be more popular and again, with the sharing, with sharing mobility services that whether you can use SideCar, Lyft and get a car immediately or be a member of City CarShare and have cars for more common needs, you don't need to have a car in the city.

Greg Dalton: How about the impact on transit? Is this just taking people off buses or is this impacting transit in any significant way? People, would they take MUNI if they didn't use City CarShare?

Rick Hutchinson: Well, this is where model matters. And our different models of car-sharing, ride-sharing and peer-to-peer car-sharing, we know through studies that have been done that when people join City CarShare, that they decrease their driving by about 45 percent, how many miles they drive, and they increase their use of walking, biking and public transportation by over 50 percent.

We've done studies with BART and the San Francisco MTA over the years to show that we are actually pushing more people on to public transit quite a bit actually. Locally last year, we had more people taking BART across the Bay to use CarShare car at a BART station in one area that we had members using it who live there.

Greg Dalton: Yeah. It makes a lot of sense because BART doesn't go everywhere. If there's a car share there waiting for you to get to that final mile or whatever.

Sunil Paul: Yeah.

Greg Dalton: It makes a lot of sense. Let's have our next question. Welcome.

Male Audience: Yeah, thanks. Thank you for a great panel by the way so far. The social sharing very impressive. The financial gain to the companies in the space seems to be more of a question mark, so we're talked about insurance liability for peer-to-peer sharing. Also, if you look at Zipcar's stock performance, it was quite underwhelming until it got bought by Avis budget for an even more underwhelming price. In fact, it spawns of lawsuits. So, my question really is what can you tell us about how compelling this market is for the companies that are in it financially. And if we had this panel ten years from now, are these companies still gonna be here?

Susan Shaheen: Why don't you start with your banking background and then I will play in.

Rick Hutchinson: Bear with me for a second but --

Sunil Paul: We should -- before you start, distinguish ride sharing from car sharing.

Rick Hutchinson: Okay.

Sunil Paul: So I think you asked about ride sharing but --

Rick Hutchinson: -- are you asking about ride sharing?

Sunil Paul: Zipcar was actually about car-sharing.

Greg Dalton: Mostly about ride-sharing. So, Rick Hutchinson who's from City CarShare.

Rick Hutchinson: Well, as far as car-sharing is concerned, now, we're non-profit, but we've made money for many years and we take all that money, we put it back in the community through a low-income product we have called Community Share. We developed the first wheelchair-accessible vans in the industry that are shared. We have an EV program going on. We're gonna initiate an electric bike program. That's where we take our profits. The point here is that we and several other transit-oriented car-sharing companies are making model, are making money and -- not a lot, but enough to create some social programs that we think are important and to help expand car-sharing.

Ride-sharing, new model, here I think -- my opinion is that people like Sunil would not be in it if there wasn't some money that was going to be made somewhere down the line as well as some social good that was produced.

Greg Dalton: And Sunil, follow-up. Google Ventures is I think investing in SideCar? So they're doing it for money too, so.

Sunil Paul: That's right. So we've raised venture around as well as the number of angel investors. Lightspeed and Google Ventures are the two sort of institutional investors in it. And this is my third company that I've started and run and invested in many and, you know, the last company was very successful. I've made a lot of money already. So, I am a capitalist. So, I certainly expect to make money on this company and it's a big reason why I did this, but I did this -- I'm doing this company not just because I think I can make money but because I think I can make a big difference and I can make history.

I'd sincerely believe that there's an opportunity to build a big company that fundamentally changes transportation and that ten years from now, we'll look back and say, "Wow, yeah. That -- not just SideCar but other companies in the space ended up transforming the way we think about transportation." In the same way that we look back on the early days of electronic commerce and we say, "Wow." Okay. Amazon, they weren't just selling books and eBay, they weren't just handling collectibles and allowing people to trade collectibles. There's a whole bit of -- commerce has changed because of those companies. So I think we're in a similar state with transportation. I think that the smartphone is going to unlock mobility in a different way. It's not just your mobile phone. It's gonna be your mobility phone.

Greg Dalton: So, you may never buy a car for that young child you mentioned that when they grew up in the mid-16, like you and I wanted so bad, it's like, it may not happen?

Sunil Paul: You know, the trends already headed downward. The number of people who get driver's licenses at age -- I think it's under 21, that population has been declining really since the 1970s and it's in part because of the phone for a different reason. In the past, the automobile was your key to freedom. Your little key to freedom. You got those keys and now you can go out and do stuff for the world. But today, you know, my almost 12-year-old, they've got freedom already. They can talk to their friends, they can have a social life. They don't have to be stuck with their dad all the time because they've got a smartphone. So, that kind of -- it's already unlocked in a different kind of freedom and mobility, and I think that even when you take at the point of, "Oh, okay. I really do need to be able to move around in a city and I really do need to get groceries and I really do need to get to a job." All those things will be possible for my kids through their phone.

Greg Dalton: Would you call up Rideshare, SideCar or Lyft or Uber and put those kids in the car and send them somewhere?

Sunil Paul: SideCar absolutely. [Laughter] But not quite yet. They're only 11 and a half. Certainly, when they're older, absolutely.

Greg Dalton: Yeah. I've thought about it. Let's have our next audience question.

Male Audience: Hi. Sunil, you said you've been talking about this or thinking about it for ten plus years. Based on stuff that's floating around in the last few weeks, ten plus years, they're saying that we'll have self-driving cars. How do you think the model changes when self-driving cars become a reality?

Sunil Paul: Another reason why I jumped in is self-driving cars. One of the reasons we're attracted to Google Ventures is because it's an investor in self-driving cars. We think that it is a fundamental change to transportation that will occur, and that having a community and a network where you can get access to a ride plays very well to self-driving cars.

Susan Shaheen: And I would just add that many people in the industry are arguing that really good platforms for testing autonomous vehicles are actually shared use fleets.

Greg Dalton: And so, yeah. The idea of buying a self-driving car might be a little scary but going to City CarShare or Zipcar or something like that, which can also be a factor for EVs, people who are interested in electric vehicles and maybe they don't want to buy because of range anxiety, et cetera. But there could be a good place to sort of prime the market for electric vehicles. Rick Hutchinson?

Rick Hutchinson: We have a large program going with electric vehicles and currently, we only have 20 vehicles on our fleet; we'll double it this year. But one of the interesting facts is that in the first six months that we had our initial ten vehicles out in our fleet, plug-ins, some of them are plug-in electric vehicles, some of them are full-electric vehicles.

We had over 3,000 unique individuals try those cars. That's more people who try the electric vehicle through our fleet than were sold in the Bay Area. So, we think car-sharing and City CarShare in particular, we're also putting in charging stations, some for public use, some for car-share use in locations that will allow us to do it.

Greg Dalton: Do you know if any of those triers went on to become buyers?

Rick Hutchinson: We suspect that we've had some short-term memberships that were looking to try out various vehicles and, you know, we're happy to be used that way as well.

Susan Shaheen: We've actually found in our car sharing --

Greg Dalton: Susan Shaheen?

Susan Shaheen: -- car-sharing research that individuals who have a life change for instance, they need to move to the suburbs or they have a child or something like that, they often buy a vehicle that they were commonly driving and car-sharing.

Greg Dalton: And you mention -- Sunil Paul?

Sunil Paul: I think this is a common -- this whole idea of sharing in variety, it's intrinsic to the whole sharing experience. In other words, if you are -- one of the things that's attractive about using someone else's apartment when you're visiting is you get to connect, it's variety. It's not the same old Holiday Inn. One of the things about car sharing is you get to try different vehicles. One of the things about, you know, SideCar is you get to meet all these interesting people and different vehicles. It's part of what makes it a fun experience. It's not just "Oh, okay. I'm used to it. It's the same old thing every day everyday."

Greg Dalton: Yeah. When I was a member of City CarShare, I drove one of those cyan, square boxy thing. I would never buy one, but it felt cool and hip for like -- [Laughter] driving those things around. You mentioned the suburbs. Does this model translate to suburban or rural America? Is this something that's really a metropolitan area? If you -- I mean, the Ford F150 is the largest bestselling truck/car in America and that gives you a sense of where a lot of buyers and drivers are.

So, Susan Shaheen, is this -- does this move out to the suburbs?

Susan Shaheen: I believe it will. I think the stronghold for these systems will be urban areas, just because of densely patterns and how people are going to be gravitating more and more towards urban living. But I do think through phenomenon like peer-to-peer car sharing, dynamic ride sharing, fractional ownership, which is the idea that several people co-own a vehicle and all these connectivity that's provided through these mobile devices and applications, there's really not a reason why these things can't spread to other areas, and I think this is sort of the next great challenge for the shared use space is can we move this into other locations than just these urban areas where we know they will be successful.

Greg Dalton: Let's have our next question. Welcome.

Male Audience: Yeah, hello. Did you do some research or benchmark on what's happening in Europe on ride-sharing or car-sharing space, especially ride-sharing for example, you have two companies. One in Germany carpooling have millions of users, one in France, three million users. Did you check a little bit on why it's so big as that and what can we learn from them in the U.S?

Greg Dalton: Sunil Paul or Susan Shaheen?

Sunil Paul: You have comments on -- I mean -- in fact, I don't know if he's here. The CEO of carpooling.com was here earlier. They have had tremendous success. I mean, they've got all over Europe.

Greg Dalton: It's a denser population.

Sunil Paul: Denser population --

Rick Hutchinson: Public transportation -- it's a whole better. People are more connected in certain areas and --

Greg Dalton: Gasoline's more expensive.

Rick Hutchinson: And they also have institutional and governmental support and I don't mean financial support. I'm talking about regulatory and policy support and that helps tremendously in Europe.

Sunil Paul: Yeah. That's a group example of regulation --

Susan Shaheen: Tremendous success.

Sunil Paul: -- and the sort of public framework encouraging these kinds of innovations. And it's resulted in, you know, I guess I shouldn't use the numbers since I don't know if it was confidential but carpooling -- carpooling.com --

Greg Dalton: It wasn't.

Sunil Paul: -- is doing, you know -- has done millions and millions of rides. And they are doing very, very well, and they're typically doing long distance trips between cities.

Susan Shaheen: Right.

Greg Dalton: Something similar to Zimride which Lyft is also involved in, and that started off out of colleges but I saw one today for someone going to Greenbelt in Philadelphia from San Francisco. Is that something that you see is really growing?

Kristin Sverchek: Yeah, that's right. So the company Zimride started -- actually, today, as our six year anniversary of incorporation, finally enough, but started initially focused on colleges and universities. A really critical thing with respect to carpooling is getting a critical mass, a large enough user base. And so the original model of the company was focused around colleges and universities where you have, you know, kind of a dense population of people that are often going to and from the same destination. And Lyft was sort of natural evolution of that with mobile technology, the ability to do these things in real time rather than planned, you know, a week or so in advance.

Greg Dalton: We have to end it there. We've been talking about car sharing and ride sharing at Climate One. Our guests have been Kristin Sverchek, head of public policy at Lyft and Zimride, Susan Shaheen, co-director of Transportation Sustainability Research Center at UC Berkeley, Sunil Paul, CEO of SideCar, a ride-sharing company, and Rick Hutchinson, CEO of City CarShare in San Francisco. I'm Greg Dalton. Thank you all for coming to Climate One today.

[Applause]

[END]