This is a transcript of Episode 127: Tarani Duncan on Mobility Lessons Learned from Early Bikeshare Days. You can find show notes, comments and more by [clicking here.](#) You can also listen to the podcast in [iTunes](#), [Stitcher](#) or wherever you get your podcasts.

Harry Campbell: So ever since I took my first bird ride on an electric kick scooter and late 2017 I've been hooked. You know, I'm really bullish on the future of scooters and e-bikes and I think they'll enable a number of new form factors and then micro mobility space, some of which we're already seeing, but some have probably yet to be invented. And I think scooters and bikes and micro mobility in general, there are key component of the three legged stool of transportation. So in order for a city like let's say Los Angeles, where I am located to have great transportation options, you need to have three things, public transportation, cars, I think car share and ride share. And then the third one is micro mobility. But we're not there yet. And today we'll be talking about the early days of micro mobility before even all of these electric kick scooters hit the streets when all we had was bike share. And we're going to talk about how far we've come with a longtime expert in the field. So if you're ready, let's get moving.

Announcer: Welcome to The Rideshare Guy Podcast where you will learn about the rideshare and mobility industry straight from Harry Campbell, who's got over five years experience covering the industry and has talked to thousands of drivers. There's no better place to stay up to date, entertained and educated. So let's dive in.

Harry Campbell: Today I'll be speaking with Tarani Duncan of Astral Cowboy with provides consulting services for last mile logistics shared mobility providers and the platforms that power them. She also worked for a Jump bikes in the past, which is now owned by Uber and several other top notch mobility companies. So on the podcast today we're going to chat all about what life was like in the early bike share days and she was someone who was there before these cakes, scooters hit the streets and before everyone else jumped on the bandwagon. We'll also talk about the tension between the old guard, a bike share and the new guard of the electric kick scooters and bikes, what struggles micro mobility companies are having today, and also what business functions they should outsource and why. And we'll also go over the opportunities for operators. The pick and shovel companies and more in the micro mobility space. So this was a really great episode with someone who is very in depth and knowledgeable about kind of the nitty and gritty when it comes to micro mobility.

Harry Campbell: And so we get into a lot of in depth topics, but it also just comes from someone who's an expert in the field. And you know what I've found, it's kind of hard to get folks like this onto the podcast and chat because usually they're working at one of the companies in question and they don't like to put those people up for interviews and you know, they want you to talk to more of the PR people. So now that tyranny is working on her own and doing consulting services, highly recommend if you guys are doing something in this field or line of work that you at least reach out to her. I think she actually offers free kind of intro calls or you know, get to know our type calls. So that would definitely be something I would take advantage of if you're interested in her services. Otherwise, this episode and show notes can be found @ therideshareguy.com/episode127 all right, let's hit the road!

So Tarani Duncan is founder of Astral Cowboy, a consultancy for last mile logistics, shared mobility providers and the empower them. She was one of the first hires at Motivate Operator of Citi Bike and some of the world's largest bike shares. Tarani was also director of operations intelligence at Jump during the acquisition by Uber where a team developed redistribution software used by new mobility operations teams before doing a tour of duty as PM of logistics at Mapbox. Tarani has also been featured in Forbes. She's spoken at Harvard business school. She's obsessed with tactical operations, really learning from and loving on a what's in hand today so we can build for a better tomorrow. Our current client list includes industry favorites like Zoba, Our Streets and Tortoise, our buddy. So Tarani also works with institutions like MIT, Sensible CityLab as well as Automakers. So she's doing a lot and today she's joining us from Portland, Oregon, where she's quarantining with her dog biscuit. So Tarani how are you doing today?

Tarani Duncan: I mean, I'm doing pretty well. Yeah. Thanks so much for having me on the podcast. I am really enjoying what you're doing here and I'm really looking forward to talking with you more. How are you doing?

Harry Campbell: I'm doing well. You know, I think I've been working from home for five years, so the quarantine I guess as far as my daily life doesn't really affect me too much, but obviously it is affecting a lot of people outside the world or outside my world, you know?

Tarani Duncan: Yeah, yeah, totally.

Harry Campbell: So, you know, I think we're getting a lot of coronavirus content and by the time this goes lives, who knows where we'll be at with that situation. But today I want to talk a little bit about you and your background. Before we get started though, I'm curious to know, I think a, I have a good guess, but I'm curious, what's your favorite mode of transportation these days?

Tarani Duncan: I really liked dirt bikes a lot.

Harry Campbell: Dirt bikes?

Tarani Duncan: Yeah. Yeah. No, totally. No any bike at this point in time. But also I just, it's hard to choose because I think they're, you know, we should have a lot of vehicles in our quiver to choose from, you know, have the right tool for the right job. I have like a little 1994 Toyota Tacoma that I drive as well. So yeah, split between my Karmic Citi Bike and my in Toyota Tacoma. But you know, you tried to minimize vehicle miles traveled on a gas, gas guzzler. But there is a certain amount of the light that comes from, from driving a tiny around.

Harry Campbell: So how's a e-bike and the dirt bike compare?

Tarani Duncan: Well, one, I still haven't e-bike I don't have a dirt bike anymore. Yeah. And I think like, you know, dirt bike, certainly nostalgic. I'm from East Tennessee, like near the smoky mountains. When I was little, I got like this little XR 70 is a little Honda that I used to put around on in the yard. And I really think that's kind of like my route that like set me up to be stoked on and open to other ways of moving around. And you know, kind of like freedom that can be accessible to other form factors that aren't four wheel been taking up a lot of real estate and kind of over engineered for a lot of the things that we need to do.

Harry Campbell: Yeah. So I mean you were really on top of these trends very early on. I was going to ask you to go into your background, but I guess that's a good place to start. You're, you're sort of been doing this from your childhood and I think that's actually one of the reasons why I really wanted to have you on was because you were sort of a fan of micro mobility and bikes and two wheeled operations before it was hip and before it was cool. And before people like me started talking about it, that's for sure.

Tarani Duncan: Yeah. And I think, you know, a lot of people have been you know, the transportation paradigm that we're moving toward today is something that we've taken for granted for a long time. We've had this technology in hand that's been relegated to and you know, operated under really sketchy and stressful conditions for all road users, which is the bike. And you kind of like inherit cities with kind of wacky land use and wacky infrastructure and underfunded public transportation. And yeah, bikes just have been, so it's kind of like the unsung hero for so long and it's so, it's so funny to see kind of this pivot into being like and it's so necessary going from like the craze of like this car is, which is kind of like the same old form factor to what about electric bikes or what about trikes or, you know, so it's, it's been, it's been cool to see it evolve for sure. And I think, you know, they're, they're just always been, you know, folks who ride bikes and advocacy groups kind of working to make you know, public space more accessible for more kinds of modes. And I think that, you know, this whole boom, like the micro mobility branding, five point $7 billion of VC funding, coring enter the space it's all been a really good Trojan horse for conversations around how we allocate public space and you know, you know, why, why cars for everything, why not, you know, tools that kind of make sense for the job at hand.

Harry Campbell: Well, I'm really excited to get into the details of sort of how, you know, bikes and that interplay between bikes and you know, sort of what we're thinking about these days at micro mobility and scooters and e-bikes and all these cool new form factors. But I think it'd be helpful for myself and also the audience to kind of understand maybe a, you've got a, I sort of read off your bio and you've done a lot, but maybe in 60 to 90 seconds or less we can kind of talk a little bit about who you are and what your, what your background is. I mean, I think I have here in my notes that we were talking around, you know, off air and we called you an early bike share lady. I don't know if, I don't know if you're okay with me using that term publicly, but I thought that was very app. So I'd love to learn a little more from from your own words.

Tarani Duncan: Yeah, I like bike share lady. I feel like that's yeah, that's good. I, yeah, so I was, I was an early days hire at motivate Ultra Bikeshare used to operate Citi Bike in New York back in like 2014. They used to call Citi Bike or a Citi Bike was lovingly called in New York, glitchy bike. And that's kind of when motivated took it over. And I was hired there as an intern. I was doing like RFP work with Alex Vickers, who is, I'm also like kind of like an OJI. I'm like mobility person

Harry Campbell: Actually invited him on my podcast too. And he he, he, he did accept, but he he said you'll have, it'll have to be later. He was on some ham track car cross country road trip.

Tarani Duncan: Yeah, yeah, yeah. I think he's, he wrapped that up recently. He was my first coworker really the space. Yeah. And then I, you know, I moved on to, you know, it was glitchy bike. There were a lot of issues with day to day operations and you know, people were attempting to rent the bikes and having this like is a huge headache. And so I moved on to head up technical operations and all of like the, you know, maintenance strategy and hardware strategy alongside of like, you know, Tyler, Justin and and Michael Freeman from the MTA. And Jay Walder was CEO of the MTA and he moved onto to be CEO of Motivate. And that was like a really interesting time, kind of like, you know, exiting college and then working with people who had been in charge of like the oyster card and in London and head of, you know, CEO of MTR in Hong Kong. Just like really.

Harry Campbell: Knowledgeable transportation experts basically.

Tarani Duncan: Yeah. And then having to go and talk to them about, well, why aren't people renting bikes? You know, a pretty surreal moment, a really cool inflection point in transportation history. I think kind of pivoting from, it's like more archaic, you know, rail system that takes forever to upgrade to more, more nimble like, you know, P three situation. Yeah. And so then I moved on to work at a bike town and launch operations here in Portland, Oregon. We, the equipment we used was social bicycles equipment. There were a hardware vendor here. And social bicycles went on to become Jump. And so I partnered so deeply with folks at Social Bicycles on like day to day, like hardware improvements and you know, like doing product development work with them on their backend that it just, it made sense for me to move on to work with Jump. And I was a director of operations intelligence there through the acquisition with Uber shortly left after the acquisition by Uber and moved on to do kind of like this tour of duty situation with Mapbox as a product manager and then was cofounding a company for a little bit. And then just, you know, kind of went out on my own to, to consult a lot of these companies because there's just so much interesting stuff happening in this space. So

Harry Campbell: Yeah. I'm curious in your sort of early days, I guess with motivate and you know, doing the Citi Bike but also the bike town and I guess even jumble, did you have any sort of one or two big takeaways from that time? Cause like you said, all right, that was sort of early on. It was a, you know, like you called it yourself glitchy bike, you know, it sounded like there were a lot of issues. What's one or two things that you kind of remember from your time on those, on those with those companies or on those projects?

Tarani Duncan: Yeah, I think the first thing is I definitely don't remember a Citi Bike as glitchy bike at all. It was such a of an situation. We went from, you know, hundreds, maybe thousands of failures a day to successfully facilitating like 70,000 trips a day in New York city on a bike.

Harry Campbell: And that was really sort of the biggest, the first big kind of shared fleet model of, you know, I guess any sort of smaller form factor, right? Like I even remember, you know, Citi Bike from back in the day even though I didn't live in New York. Right?

Tarani Duncan: Yeah, no, it's, it's a, it's was a huge success. It is a huge success today. And I think like, you know, private public partnerships are a really interesting, I think that it can be a little loaded but as long as you know, the success of private companies are tied to specific policy outcomes and you know, they're, you know, being regulated and, and you know, holding up their end of the deal, it can be a pretty beneficial. And I think Citi Bikes a really good example of that.

Harry Campbell: Why do you think that one works so well now Citi Bike partnership,

Tarani Duncan: They had a really intense contract with NYC DOT and like you know, really specific service level agreements that are being driven on the city side by data. And there's a strong partnership there too. There's a lot of like no transparency in terms of like data exchange that isn't super loaded cause it's station based. So you don't get into kind of like the user privacy violation that you get with other IOT devices. So the P three model's really interesting in shared mobility. I think it's, it works, you know, product development, you know, was the motivate team, the super nimble with product, definitely not as nimble as social bicycles. Did they make a bike and a service like you know, are the bikes and capital bikeshare and DC is still out, you know, riding around 10 years after they were made. Yeah.

Harry Campbell: I mean, I guess to me when I think of, you know, sort of from the outside, right? Like when I look at a bicycle, it's pretty simple, you know, especially relative to to a car or you know, airplane or anything like that. But I'm curious, I guess on the shared fleet side, like when you, when you talk about improvements to the product, like what is that strengthening the bicycle, making it so it doesn't get stolen or it can lock easier. What kind of, I guess product improvements are we talking about there with a bicycle that, you know, I guess to someone like me seems simple but I'm sure it's not.

Tarani Duncan: It's electrifying it and it's also building, you know, not just a bicycle but it's kind of like expanding beyond is it a bicycle, is it a car or can we just get creative around like the right tool for the right job and how do we actually induce mode switch in those trips less than, you know, five miles less than three miles, less than two miles that would be meaningful for, you know, the livability of our cities.

Harry Campbell: How did you do that as far as like induce mode switch for example? I don't know if you recall any specific example.

Tarani Duncan: Yeah, I don't think we're doing, I don't think anyone's doing a very good job of that right now.

Harry Campbell: I guess that's why I asked. Right.

Tarani Duncan: Yeah, no, I think as a whole it's like, and I'm, I definitely answered your question more on a macro level then. Like on a Citi Bike specific level, you know, if we were talking Citi Bikes specific level, we always talk about friction to rental, like barriers to entry are the, you know, mobility hubs in the right place. Is there something about the frame that you know, is making it so that people are having a hard time writing it? You know, you could like kind of dig into the minutia there and figure out what friction looks like. And I think that's in part, you know, what was so compelling about scooters is there a lot, there's a lot less friction there. You know, you, you take a picture of QR code and you go kind of back to the macro level answer. I think that as an industry we're figuring it out, but it's taking all of us together. So like you have the rebels of the world with their mopeds better, good for X amount of trips. You know, kick scooter companies, bike share company is and on demand or subscription based car services. So it's kind of like this whole ecosystem and just trying to figure out, you know, what is the likely, you know, tripling or once you know the persona of what's the job to be done. And is this device serving that job well,

Harry Campbell: I think that's actually a, a great way to put it. And I think comes from the I didn't make it through the whole book, but the innovator's dilemma, right?

Tarani Duncan: Yeah, yeah. I've never read that book, but I have, I've heard it, I've heard it referenced quite a bit, especially after his passing. So I've got a, I should check it out.

Harry Campbell: Yeah, I think it's interesting, but it is a definitely, no, not a, not a pool side, a book. Let's just put it that way. And you know, so, so we're starting to talk about scooters and I think one of the things I think is really cool about your background is, you know, like we talked about your, you know, early at motivate and doing the Citi Bike stuff and really seeing all of that, you know, kind of an expert from the inside in those early days. And so what was it like to see this kind of what I call the micro mobility explosion, you know, with that dispersed scooters from Bird and Lime. And I guess this kind of happened around 2018, I guess. Where were you and what were you doing when the micro mobility explosion happened?

Tarani Duncan: I was actually working I think to help Bay area bike share rebrand as Ford go by. Again, kind of doing this, you know, reconfiguring of their operations alongside of enlist Stapleton and a in a group of folks who are motivated. And that's when Bluegogo showed up in San Francisco. It was like around that time. And so yeah, we saw the, you know, the dock based systems kind of show up in 2000 tens through like 2015, 2016 and then in 2017 we saw the Douglas bikeshares appear. And I think that our first reaction was just kind of the laugh because there's so many degrees of freedom that you introduce when you have a free floating mobility schema. Operationally, it's like a legit, it can be a logistical nightmare. And then we saw the hardware and we thought, well, you know, like these aren't bikes that are made. Like we make our bikes, which would be after X many miles. You changed this part. I'm like, we have these were parts but the frames, the tank and it lasts forever. Kind of like the chassis of the car, you know, or how you would get your car maintained. Like these, these new dock less bikes kind of appeared and they were flimsy. If something broke, you scrap the whole thing and you just kind of like put them wherever and just kind of hope that people ride them. And it just, it just felt kind of like initially kind of like a cheap move. But also it's kind of, again, like a lesson and, and product design where it's, you know, motivate with certainly more nimble than the MTA. But we're not taking like 70 years to show zero to one on a screen. But, you know, we weren't doing like MVP deployment, like testing that then iterating and scaling. But I would say that these early, you know, ductless bike share companies weren't iterating. They were just kind of blitz scaling and you know, kind of creating this chaos. So it's, you know, they, they definitely understood MVP and they scaled their MVP is, and it was, it was kind of interesting to see. So it was kind of like this, it was a, it was a tense moment in bikeshare, I would say. They were like the old school bikeshare folks who are like, you know, we have like full on maintenance departments and we know like, which parts last, how many miles or how many trips. And then you have these guys who are just like, we're gonna throw this out there and make money. And you know, from the city side of things, it was really interesting too. And then, yeah, in 2018 that's when the free-floating electric kick scooters emerged. And I was blown away because I, I'll never forget this. We, we used to joke and bike share that we could have our fleet maintenance teams and like this is alongside of our fleet maintenance teams and in partnership with them ride kick scooters around to Maine, like get our field operations cost down. And so we were, we joked about like kick scooters as a tool for maintenance teams. And so it was really funny to see Burnham or with like a kick scooters, the, the form factor to be rented. And it was, it was definitely like, there was kind of like this old guard, private public partnership working strongly with cities, third party sponsors model like building an actual business and understanding the math and you know, figuring out, you know, alternative funding mechanisms and then like the new kind of age of BC funded consumer gadget rental. Like I think that we were all kind of like, well, they're gonna, they're not gonna last, it's all going to kind of like burn out because they're not actually running a business here. But I've actually been pleasantly surprised to see, you know, to learn what we've learned. And I think that everyone has a right to kind of explore what they need to explore. And yeah, I think overall the industry has just grown so much in the last few years and that's regardless of my, you know, professional opinions about how you should operate a business or you know, how you should seek funding. It's been really amazing to watch it all unfold.

Harry Campbell: Yeah. And I think one thing that stands out to me from everything you're describing is that there's sort of a lot of ways to operate. You know, there's a lot of ways to, you know, I guess a appeal to your customers, whether it's the form factors or behind the scenes or the public private partnerships. I guess is there anything that you're sort of partial to either for sentimental reasons or just because you think it's the best way to kind of operate or run a business?

Tarani Duncan: I really liked the Citi Bike model a lot. Are there issues around like exclusivity? Absolutely. There's the whole walled gardens argument, which I'm not super versed in it, but I know that it's come up a lot in the context and you know, Citi Bike and Lyft.

Harry Campbell: And so can you briefly describe like what, what is the Citi Bike agreement like kind of briefly, how does that work at a high level?

Tarani Duncan: So, so they're the exclusive operator of bikeshare shared bikes in New York city. They are under the thumb of NYC, OT, they have this really robust maintenance operation. The success of the company is tied directly to specific outcomes for the residents of New York city. So it's, I'm not sure that's the game that, you know, new entrance really want to play, but operating at scale and public right of way, I feel like you should. So that's kind of like what you know, and then also like just the sense of, yeah, of course when Citi Bike first launched and anytime there's expansion, there's, there's a lot of issues around do we want this technology in our neighborhood? Who was this even for? But, but you know, even from like just the level of organization from how, you know, Anne Krassner Citi Bike handle liaising with community organizations and making like where the stations go as equitable as possible and as community driven as possible all the way to you can go up to any bike mechanic and ask how many miles on the field and where part would last. Like that's the kind of nostalgia that have, or Citi Bike cause that's not what you know today.

Harry Campbell: Yeah. So let's fast forward a little today. Do you think that there's a lot of tension between, you know, sort of maybe the old guard, the folks like yourself, you know, the Citi Bikers, you know, everyone who's sort of doing the bike share and maybe the new guard, you know, like kind of maybe these companies that, you know, some of them are adapting or you know, taking more of that old school, you know, working with cities type approach. But do you see it as sort of one side versus the other or do you think people are working together all towards a common goal?

Tarani Duncan: I mean the where work, it's all of that. We're obviously all working towards a common goal. I love that. You know, more folks are excited about this space. There's more money being funneled into it. I think that's a really beautiful thing. And I think ultimately we are moving the needle in the right direction because inevitably we're learning from, you know, our successes and our failures. And I would say that there's kind of this tendency in Silicon Valley and you know, companies that are really kind of meeting or hoping for VC money to pretend like they have invented the wheel or sliced bread and kind of like needing that authorship and like, you know, disruption theory is very different than I think, you know, how people talk about it. But I think, yeah, I think that there's probably like a sense of like with the old guard, God, we've learned so many lessons. You know, I have memories biking around at 3:00 AM with like all of the managers from Citi Bike, you know, fixing things in the field and like getting the system ready for the next day. And that's just kind of like old institutional knowledge, like wisdom you get through actually like the practice of, of a thing. And it's kind of frustrating for folks to kind of come in, not see that as wisdom but see it as like, you know, like slow, like not innovative. Cause we're all, we all are working towards the same goals. I think that there's like a, you know, with the acquisition of, you know, jump and Citi Bike bike by software companies there's definitely been, you know, that sense of like the software people being like, well we're going to teach these like feral maintenance how to, how to run a company. And it's like, well we could actually teach you all how to make money. Would you like that?

Harry Campbell: The reason why assets, because it seems to be a trend that I keep seeing over and over in various areas of mobility that are being disrupted. And you know, with ride share for example, I kind of joke sometimes, you know, Uber and Lyft came in and they completely disrupted the taxi system. But now a lot of the features and a lot of the product updates and a lot of the services and the pricing and the payments that Uber and Lyft have shifted to over the course of five to six years. It's very similar to a taxi, isn't that, I mean I think that it's like coming full circle in a lot of ways and that you realize that you know, for example, like a small thing is when you go to a taxi driver and they might charge you an extra dollar for an extra person or a little bit of extra money for if you have a big bag or the taxi line that they have at the airports. Like Uber and Lyft are starting to implement a lot of these things. And I see that too in micro mobility. So I guess my point is that I think you know that these new technologies can kind of bring definitely some inherent value, you know, whether it's like shared rides on ride share or there's, I'm sure there's some interesting examples you could share in micro mobility but it does seem like the new guard definitely kind of tries to come in and do it their way, but ultimately almost always they end up not completely reverting but like going back to a lot of the ways that you know, let's say Citi Bike was doing it in the past because you know they were doing it for a reason, right? Like they weren't just doing it for the heck of it. Is there anything that you sort of found is like a good sort of meshing of the two? Are there any companies or any examples you found?

Tarani Duncan: I really love what the European kick scooter companies are doing in 2018 when kick scooters are popping off here. Everyone was obsessed with the idea of gigging everything out and having people, you know, come and pick up a scooter and plug it in in their house. Then like what if there's a failure oopsie.

Harry Campbell: I was one of those people.

Tarani Duncan: Yeah. Oh my gosh. Yeah. Okay. I can't believe I didn't know this about you.

Harry Campbell: Yeah. And I've tried pretty much every service, so.

Tarani Duncan: Yeah. That's great. Okay. I wanted to kind of want to hear, how did you, how did you feel about it?

Harry Campbell: I mean I think for me, I know when, you know, I kinda got a little bit lucky just in the sense that in 2018 you, I grew up here in Santa Monica and Bird was exploding so I just happened to be in the right place at the right time. And I guess kind of based off my ride share knowledge of knowing that, you know, a lot of rides are individual riders, zero to two miles. And it, you know, I think it later came out that Uber said that was about 50% of their trips. But you know, any driver could have probably told you the same thing without looking at the data. So I felt like I had some insider info that, you know, when these things are working at scale, the hardware's going to be better. You know, they're going to have more density. And long story short, a scooter is going to be, you know, faster, cheaper, more convenient cause you can go through traffic and more fun. And so for me, I was just thinking about our way, like, all right, how do I get in on this from the content angle from what I'm doing, I see a lot of these Uber folks going over there. And when they started the gig charger program, I knew that that was sort of a potential way that we could kind of cover it and learn about the company. So that was really kind of my you know, how I started dabbling in that.

Tarani Duncan: Yeah. Yeah. And overall thoughts, like what was the experience as a charger?

Harry Campbell: I mean, I think that it's very similar, you know, I think in a lot of areas of transportation you know, especially from the worker's point of view, you're often just getting a group, an object or a group of objects from point a to point B. And I guess in the case of charging scooters, it was from, you know, a bunch of points back to your house and then back out on the streets into the nest that they set up. So I found it actually like very similar to driving for Uber and Lyft. Obviously you didn't have people, but you know, I think that like all that's one of the reasons why I'm so interested in, you know, kind of why, you know, I think ride share is the focus, but I sort of use that as a lens to judge all of these other areas of mobility. And I think like more often than not, they're a lot more similar than different.

Tarani Duncan: Yeah, they are. They are very similar. And I like what you said too, it's not, it's not just microbiome. It doesn't just transform, you know, the movement of people and also kind of disrupts or can disrupt the, the movement of goods as well. So I think that that's really interesting. But, but yeah, so the gig situation is complicated in the same way, except even more complicated. Then the free-floating situation, you know, these operators are introducing even more degrees of freedom. They don't have a lot of control over the experiment. So, and they also are creating perverse incentives accidentally. And so I think that, you know, companies that are doing it really well now or, or companies who realize, you know, we need more control because we need to gather data around how to conduct our business and then look at the entire spend and kind of figure out which areas we can kind of strategically chip away at to start, you know, building a company that's profitable.

And so I think that, you know, companies in Europe like tier and boy are doing really cool things. I think Bird a state side as well is it's doing really interesting stuff. And I think that, you know, we can talk picks and shovels. I feel like there's going to be more of these companies like Zoba and Tortoise who are providing services to these, these third party or to these micro mobility operators, including third party logistics companies. So they basically looked at, you know, what are the most expensive parts of this business? Like what, as you know, our team or are we competent on like what's our core competency and what should we outsource? And I think that the European companies are actually doing a really good job of figuring out like, you know, just how big of a bite they can take. And then, you know, kind of what they need to, to outsource to people who can, can make their day to day a little more lightweight and more efficient. So I think, yeah, like Tear and Boy and the European kick scooter companies and then Bird as well.

Harry Campbell: Got it. So what are those items, you know, we don't have to go into everything, but are there one or two big items that you think these companies can or should outsource?

Tarani Duncan: I think the first thing that everyone should, should think about outsourcing is fleet redistribution optimization. So at Mapbox I was product manager of logistics. I was working with some of the most sophisticated logistics companies in the world on, you know, optimization issues around, you know, route planning for last mile parcel delivery and also just car share companies thinking about where to put things. And you know, even on a, on a route, let's say you have five stops and just a handful of constraints, the number of ways you could run that route, how many solutions there are to that exceed the number of stars there are in the galaxy. It's just like an insane mathematical problem. And you know, figuring out it's, it's, it's basically like in shared mobility if the city was a chessboard, but there are thousands of grids, hundreds if not thousands of pieces to play with, which would be the mobility devices and as many players as there are operators in town. And then, you know, the quality of the move is informed by a femoral events like weather and traffic.

Harry Campbell: Yeah, I was, I was about to say there's external factors, right? And I think I can attest to this, right? Like, if you're an Uber driver and downtown, like the tall buildings tend to obscure GPS and that makes it more difficult if you've ever been using Google maps when it's like very, very heavy traffic and it's, you know, like kind of red that traffic estimates are like way off. You could sit there for 10 minutes and not move, you know, an inch. So it's very complicated.

Tarani Duncan: Yeah, exactly. It's, it's, it's really complicated. It's a really hard problem space and it's beyond like, you know, and back in the day it maybe it was sufficient to put bikes or scooters outside of like the Superdome during a football game or outside of the Moda center during a basketball game. But you're not really able to understand which move is the right move until you take, you know, the, the spatial temporal constraints of the real world and realities of the real world and plug them into a really advanced mathematical model. Like you just can't do it. It's beyond, we were not meant to play a game of chess, this complicated. So what companies are doing this Zoba that's doing this. Yeah. And they have a team of data scientists from MIT and Harvard who are just so amazing and smart and kind and are really passionate about the problem. So it's been really great. They're one of my clients. It's been, it's been really great working with them. So, you know, a lot of these companies feel like they can do things that Zoba doesn't house, they'll hire, you know, like a head of data science. But that on that person's plate is like, how do we increase our funnel? How do we say sticky? You know, how, what's, what's going on with like failed payments and fraud, fraudulent charges. And they're like, Oh, and while you're at it, can you figure out how to optimally distribute the fleet? And the data scientist is like, no.

Harry Campbell: What's really interesting is there does seem to be, you know, and I've worked with like probably thousands of Silicon Valley, you know, tech startups at this point. And there does seem to be this kind of like inherent bias towards doing everything themselves, you know, and kind of like building all these products themselves, right? Like, not hiring other people or outsourcing or you know, consulting or whatever it might be. But I think what I really like what you said is that it's more about finding like the one or two or maybe three or four things that someone else that has, you know, great subject matter expertise can come in and do better. Like how do you identify those areas? So it's, it's interesting to hear that this is one of them. Do you think it's because it's such a complex problem or what makes this area, you know, fleet redistribution observation? Like what makes that, like what are the reasons why that should.

Tarani Duncan: It's really difficult to nail and to solve the problem. It's, it's a full time investment. It would be like you would have to have essentially a company within a company and yeah, and some, some companies like Uber, you know, they're, they're big enough they can afford to, to make an entire department. But also I wonder sometimes if, if these giants kind of pitted their own in house solutions, if they were smart and you know, compare their own in house solutions and the work of their team against these third party companies that are super confident who would win.

Harry Campbell: Yeah. Yeah. No, that's interesting. I think it's a tough but a also challenging dilemma and I think the companies that figure that out are probably going to be the ones that have a lot more success. Or is there anything that you've seen in your sort of experience or the, you know, in the last two things I want to cover with you is sort of, you know, first like kind of what else do you see companies struggling with right now? Anything else other than I know there's a lot, but any other big items?

Tarani Duncan: I think day to day operations is just really hard for folks. It's, it's really complicated and you're also generating routes. You're trying to figure out, you know, which mode is right for a certain interventions, what percentage of your repair should happen in the field versus in a warehouse? How do you design a vehicle for maintenance that generates a return on any investment you make to that vehicle? Or it's where parts and the maintenance of those things throughout its life cycle? I think, yeah, just day to day operations and how much that's informed by design. Is it really difficult lift for these companies? So I think we're going to see a lot of folks kind of pivoting to like direct to consumer. I think we're going to see folks, you know, becoming more of like a picks and shovels business or we're going to see folks running out of a runway or getting other injections from BC and still kind of struggling in the same ways over and over again.

Harry Campbell: Yeah. Yeah. Are there any, I guess, companies in that picks and shovels space or I guess any opportunities you see out there? I know you mentioned Zoba and Tortoise who I've had Dimitri on the podcast. I liked that business lot, actually invested in the company after I interviewed him. So definitely a big fan of tortoise. Any, any what opportunities or you know, I guess I liked that Pixton shovels term, but cause that's sorta what I do on from the content side, but curious to know what you think.

Tarani Duncan: Yeah. And that's kind of what I'm doing on the consulting side now too. It's kind of like hedging my own risk and not knowing, you know, which, which start a hitch, my wagon to you because it's such an intense time in the space. But yeah, I think third party logistics companies are actually going to have a come up in the next few years just like how do we maintain these sweets and run out daily operations as cost effectively as possible. So I think that we might see, you know, that that happening where yeah, there's a maybe a core team of folks who are this company like a Tierney and scooter company is a full time, part time employees, seasonal employees, whatever. But that their efforts are kind of being supplemented with this third party logistics company or coordinated alongside of and then kind of slowly, you know, chipping away at well what can we outsource to them versus what we can bring in house and finding the right balance and, and a lot of those, I guess that I would say is missing in this industry is just basic accounting and basic business problem solving because everyone's so intent on fundraising right now that they're not really running businesses. They're running like horse and pony shows. So yeah, I think third party logistics companies though have the have a lot of potential here. And especially if we're talking about the disruption of, of movement and goods, it could, it could get pretty interesting there.

Harry Campbell: I really enjoyed our conversation. It seems like that, you know, if I'm out there and I'm looking for opportunities or if I'm an entrepreneur looking to start something in this space, it does seem like the thing that a lot of, especially the companies that are coming at it more from the VC, the tech side, you know, is that might be more like the birds and the limes. It seems like they run into the most issues when it comes up against like real world problems. Like a lot of things you're talking about are like redistribution, optimization, logistics, operations. That's like getting out into the field and like you said, you know, 3:00 AM driving around getting these scooters, getting your hands a little dirty. And this was something I noticed in my experience as a bird charger was that early on you know, I felt like a lot of the actions that companies wanted you to do, it was sort of like, Hey, you know, be like a good, you know, like do this out of the, of your heart. Like, go over to this scooter and find it out of the kindness of your heart as opposed to like paying me more as a charger for doing it. And like how I know gig workers, like they're not gonna, they're not incentivized in the same way as, you know, an employee who has equity or that's working very hard for different incentives. And so.

Tarani Duncan: For that gets like free lunch and snack cushy office and it's like a salaried employee. Yeah.

Harry Campbell: Yeah. It's like a very different sort of, you know, incentive structure but also just type of worker and you know, their motivations are going to be different. You have to really understand them. That's sort of where I've come in in the past is, you know, bridging that gap. But it does seem like, I, I like that idea of, you know, these third party logistics companies. I know there's, you know, lots of companies providing you know, everything from like charging space to, you know, like bicycles to go out and collect scooters. And it seems like a lot of those opportunities are very interesting in the future. So I do want to, you know, wrap things up though and kind of ask a, just kind of close things out with a little bit more. You mentioned the work that you're doing. Do you want to share how you're working with companies or things that you're interested or looking to towards the future?

Tarani Duncan: Sure. Yeah. So I'm really excited right now about working with, you know, shared mobility operators on helping them with their, their day to day operations strategy when they're ready to come to the table and talk about that, those things. Like right now it's, you know, maybe not. We'll see. I'm not, I'm not sure you know, where, where some of these companies are. And in regards to that I'm also working with companies on product development technology transfer for some colleges and like transportation labs and working with automakers. There's a big pivot here that's happening and my favorite clients right now are last mile delivery companies and automakers. So that, that kind of work is the work that I'm most excited about. But yeah, I would say I love operations. I love being in a work environment where you have PhDs working alongside of folks with wrenches in their hands who have benefits, who have a full time job, who love what they're doing because it's resourced and people understand the inherent value and, and an execution and maintenance. And yeah, when people are ready to get serious about operations, I'm here to talk to them about it.

Harry Campbell: Yeah. And it also, you know, one thing I've noticed, you know, since I've been kind of covering the ride share world, Vegas now, like six years, there seems to be, you know, we talked about that full cycle of, you know, coming back to the industry you disrupted. But also it's a lot of times, you know, the, the right ideas, you know, sort of sometimes just need the right timing. And so I'm seeing companies or you know, ideas or products or startups, you know, come out now that I've seen before. But I think the timing is a lot better now. So I imagine too, it's, it'd be really valuable to have someone like you on their team because you kind of know what everyone's tried before and you're kind of like an Almanac. If someone needed the history of micro mobility or bike share, you'd probably be the person to talk to. So I don't know if that's as a sexy of branding, but a, I might think of you that, that, that way as a resource in the future.

Tarani Duncan: Yeah, yeah.

Harry Campbell: No, I agree. That's, that's, that's, that's right. Very cool. So if people want to get ahold of you, I know you're on Twitter, what's, what's the best way they can find out more about your work or follow you or get ahold of you?

Tarani Duncan: Sure. So I'm at Twitter @TaraniDuncan and I have a website for my company. It's Astralcowboy.co. That's a A S T R A L cowboy.co. So there's more information there if they, they want to reach out.

Harry Campbell: Very cool. And we'll leave a link to that in the show notes. And I just want to say Tarani. I think that's the first time I pronounce her name right on this whole podcast, but I think I got it right. Finally at the end. I'm going to keep practicing and appreciate you coming on. We'll definitely stay tight, stay in touch and look forward to seeing what you do in the future.

Tarani Duncan: Yeah, thanks so much for having me.

Harry Campbell: Big things to Tarani for coming on the podcast and chatting. I think I did get her name right in the intro and outro since I did that after we recorded. But I apologize. Tarani if I got your name wrong, I think more than once during our interview and I promise to get that right in the future. So, you know, the more I study the transportation industry and the revolutions of mobility, I think the more strongly I feel that a lot of the disruptions that are taking place are a lot less revolutionary than these new companies might make it seem. And I think my interview at Tarani really only reinforced that. I mean, there's definitely a ton of value being created, but more often than not, the new companies that are out there, especially in the mobility space, I think there are, there are a lot less disruptive than it one seemed. You know, we recorded this interview sort of at the beginning of the whole Corona virus outbreak and everything that's going on there. So we didn't really touch on that. But I think that, you know, what we're seeing there with Uber and Lyft and their labor side, right? I mean, they use this independent contractor model and now we're seeing the downside that there's no worker pay, there's no protections and the government sorta has to come in and bail out drivers when in reality, you know, I would kind of argue that it's the company's responsibility. So I don't know that, you know, I would call that disruptive, but obviously Uber and Lyft have been able to add a ton to their value because of that so-called disruption. So I think that a lot of the best strategies, they really involve, I think understanding the industry that came before you and also how your product, your service, the thing that you're now bringing to the market, how it's better, right? What elements are you building upon as opposed to disrupting the whole thing and breaking things down, right? I think there's a reason why things are the way they are usually. And even though there's, you know, things that you can change or that you can tweak. I think a lot of times, you know, things don't need complete and utter disruption. You really want to take the elements of the old guard, you know, that are sort of working and work best. And then you bring in this new card, which often involves technological advancement, right? Like the macro trends of electrification or apps or how you know, about new hardware, software you know, kind of faster internet speeds. All of those macro trends we're seeing. You want to take the elements of both the work the best. And I think it seems like, you know, a lot times the old school, they're the old guard, they're kind of bringing the operations, the grit, the, you know, kind of on the ground No who No how like what's really happening in real life. Sort of like how Tarani was talking about what the bike share and the new school they're bringing, the tech, the convenience and the ease. And so it's all about kind of taking that old and that new and meeting somewhere in the middle. You know, there's elements that I think are gonna work really well for that old guard and there's a lot of elements in that new card. But eh, you don't have to sort of throw out what, what the industry that came before you, all the work that they've put in. I think that there's a lot you can learn. And I know, I see this firsthand in ride share. I joke a lot of times at ride share, it's kind of coming back full circle to being a, basically a taxi company. And there's a lot of elements of basically taxis that you see now with rideshare. So definitely interesting. And you know, I think if you can combine those and really take the best of the old and the new, even though it sounds pretty simple, I think you start to build a business that can achieve growth, high valuation, and actually be profitable. You know, you might actually have a business that lasts as opposed to sort of you know, kind of peaking very early on like some of these other new mobility companies have. So hopefully you guys enjoyed this episode and my thoughtful analysis at the end for a few minutes. So if you're still with me, I appreciate you sticking out to the end and feel free to reach out. If you have any questions, you can shoot me an email harry@therideshareguy.com @The Rideshare Guy on all the social platforms. All right, thanks for joining on today's ride and we'll chat again.

This is a transcript of Episode 127: Tarani Duncan on Mobility Lessons Learned from Early Bikeshare Days. You can find show notes, comments and more by clicking here. You can also listen to the podcast in iTunes, Stitcher or wherever you get your podcasts.