

Tectonic Episode 05: Democratizing Innovation in Cities

Katie Stebbins 0:00

I don't want my kids to feel compelled to solve climate change only because our basements flooded. It can't feel only real once it's literally in your basement. You've got to be shoulder to shoulder and be proximate with people and problems to really put your mind around the problems you want to solve. That's how we innovate.

Brendan Karch 0:22

Welcome to Tectonic, a podcast uncovering the shifting foundations between science and society. I'm your host, Brendan Karch. On our fifth and final episode this season, we talk about 'getting proximate' to solve problems, especially the challenge of revitalizing our post industrial cities. Our guest has been helping to democratize innovation throughout Massachusetts and beyond.

Katie Stebbins 0:49

I'm Katie Stebbins. I work at the Tufts School of Nutrition, and I am the Executive Director of the Food and Nutrition Innovation Institute. I'm also head of an international cybersecurity nonprofit called Global Epic, which is based out of Belfast, Northern Ireland.

Brendan Karch 1:05

These are just two of the many hats Katie has worn over her career. For the bulk of her professional life, she's helped to lead city government initiatives, spearheading innovation projects in post industrial towns looking for a leg up. But she never aspired to be a bureaucrat. Her roots, rather, were in environmental activism.

Katie Stebbins 1:29

You know, when I describe my path, it's always important for me to go to the Wayback Machine really briefly, in college, actually, because I got exposed in a class to learning about environmental toxins, and toxic contamination, and pathways to humans and the environment. And it just struck a chord.

Brendan Karch 1:49

As Katie learned to apply this work, it was actually a negative experience with government that pushed her to go into the public sector.

Katie Stebbins 1:57

And so I got involved with a nonprofit that was trying to like shut down toxic waste plants and protests, dumping, etc. And we went to the government to try and get attention. And the government didn't want anything to do with us. There was basically a closed door, we didn't, they didn't want have a conversation. And I had this revelation at that moment, that I needed to

go work for government. Because my revelation was, I want to be on the other side of that door, no matter who's knocking, whether I agree with them or not. Government needs people on the other side to create a table for a conversation, and to come up with shared co created solutions.

Brendan Karch 2:38

Katie ended up with a degree in city planning with a focus on the environment, and started her career by moving to one of the most economically depressed post industrial cities in Massachusetts.

Katie Stebbins 2:51

This was Springfield, Mass., which, you know, its history is that it was something everything was made there at one point. Rolls Royces and the monkey wrench was invented there. And just like basketball was invented there, and just just on and on and on, things that came out of Springfield that are just incredible. And I was just so impressed with a city that used to make everything and had this grand past, and it all fell apart.

Brendan Karch 3:17

Springfield was a city of faded glory, sometimes buried so deep it was hard to see. But not for Katie.

Katie Stebbins 3:24

I jumped into economic development and city planning, thinking, there's a way to turn this around. I fell in love with the city, I saw the old architecture, I saw the cultural assets, I saw this new beautiful fabric of people that have moved in from all over the world. And they were all struggling to try and find that American dream, trying to figure out how to make this place work for them.

Brendan Karch 3:44

Step one for Katie was recognizing the value and beauty of a neglected town like Springfield. But how do you pull a city out of its post industrial malaise? For Katie, one of the first steps was getting real about what your city has become, not wishing that it simply returned to a past that's gone forever.

Katie Stebbins 4:04

So you have an old guard that sort of remembers the way a place was, and believes that if they run it the way it was, then things will come back. And then you have a new population that comes in. Springfield has one of the largest Puerto Rican populations in the country. And this new population had its own hopes and aspirations that kind of smacked into the wall of the tradition of what used to be, and in working in that dynamic and trying to help people find their agency and find their power was really difficult.

Brendan Karch 4:37

Katie couldn't solve all of this at once, of course, but she found ways to be effective within her own niche: environmental planning.

Katie Stebbins 4:48

I was the brownfield coordinator. So my job was to redevelop all of the toxic industrial waste sites in the city, my college dream realized. And there was one site that we really wanted to clean up and put housing on, affordable housing. And we had put the whole neighborhood land together, put housing there, and a community garden group had come forward and said, we really want a community garden here. And I ended up in the middle of a very public firestorm of what should go there. You know, should it be what city hall wants, which was housing, or should it be what the neighborhood wanted, which was a community garden. And at that moment, I had -- I worked for the government, you know -- so I was toeing the line of what the government wanted, which was housing. Ultimately, it kept playing out and playing out, and the neighborhood got the garden, and it's still a garden today, which is kind of fun to drive by and see. But it was a good lesson for me. And I think it was one of those pivotal moments in my career early on, where I realized, I can't just sort of blindly drink the water of whatever's being, sort of told from the top down should happen.

Brendan Karch 5:49

For Katie, this wasn't just a lesson in power dynamics. It was a lesson in expanding and democratizing her definition of innovation.

Katie Stebbins 5:59

You have to sit with people and listen, hear what they want to do. Innovation happens in different ways, right. And to this neighborhood, creating a community garden in an old abandoned space was an innovation for them. And then applying innovative growing techniques to that garden on a small urban lot -- irrigation, compost, year round growth. All of these things, this is innovation; this neighborhood studied this, they were innovating and they were bringing back a corner of the city. You can't look at the population in your city and because they may not be as educated or may not be engaged in the tech economy -- you can't look at a population decide they aren't going to be a part of that economy. What you have to do is create a democratized version of that.

Brendan Karch 6:42

After nearly a decade working in Springfield, Katie moved on to found an innovation district in another rough at the edges, post industrial Massachusetts town: Holyoke.

Soon after she arrived in 2011, the town seemed to hit the jackpot. A High Performance Computing Center opened, a joint venture have five universities, including Harvard and MIT. The city had a new innovation headquarters, and economic hub. But for Katie, it was just a starting point.

Katie Stebbins 7:19

Okay, so you have a high performance computing center with five world-leading research universities in the middle of one of the poorest cities in the state. Now, what do we do? So instead of suddenly thinking, well, we're going to train everyone to be IT professionals, right. All

they did was create a community space and open the doors. And they invited the community in, and they said, come in, and see the space and hold your meetings here. We don't care if you're going to have a meeting on how to make donuts, like, just be in the building and know that we respect you and this is about you, too. That was step one. Step two was I went all over the city and I found where are people innovating. This is one of those you have to kind of open your mind up and go digging, you know. So for instance, there was a group of young people who were turning bike parts into furniture. That was very cool, and then selling them, so they were innovators. There was a guy who was growing a coral reef. He had a mangrove swamp growing coral in his garage, and he would take that coral down to Puerto Rico to repopulate the coral reefs of Puerto Rico. He's an innovator.

Brendan Karch 8:26

Kati saw it as her job to nurture and connect these non traditional innovators, and to make the whole community, not just investors, aware of their accomplishments. Once again, she set out to democratize innovation.

Katie Stebbins 8:42

You find those people, and you're like, these are innovators. And then what I did was, I had them -- there was maybe 10 of them the first year -- and we had them do pitches. We put PowerPoint presentations together and presentations. They came to the Computing Center, we practiced how to do a presentation. And each of them presented to the business community and to their community. We invited both. And in that moment, the business community got to hear, Wow, there's a lot of really bright innovators in our city who I never would have thought were here. And then the community said, look at these incredible innovators that is us, this is us. What else can we do? You get to know the people who are there. You can have a very special relationship and realize that everyone has an innovator inside of them. They just have to have the right opportunities to bring it out.

Brendan Karch 9:33

For Katie, pounding the pavement to find innovators in unlikely places, is how you turn around post industrial cities.

Katie Stebbins 9:41

I think in any community you go into, you'll be surprised when you start knocking on doors, going in buildings, meeting people, the kind of assets you have under your roof that you never thought you had. And all of our cities -- remember anytime you're in a post industrial city, there is an industrial legacy there and I don't care where are in the world. I love going into cities and just sort of unearthing what's been there all along that we forgot about, and building on it. And I think that's really the way that you honor legacy and you build on assets and create something bigger.

Brendan Karch 10:15

This method, Katie says, can nurture local communities in ways that the old factory model can't. That's why she's skeptical of cities looking for silver bullets, that one big corporate office or new production facility that will allegedly save the town.

Katie Stebbins 10:32

Economic development models are still built on chasing silver bullets. I think it's just a model that some people believe: you know, build a big building, hire tons of people make everybody happy. I do think the pandemic is potentially changing that outlook a lot. Because the sort of the factory town, as you said, doesn't have the same allure. People are getting much more clear on what I want to do with my life. Okay, you're working at this plant, and you're making this part right now. You don't want to make this part for 50 years. So what's the next step?

Brendan Karch 11:08

Our workforce these days demands much more from their careers: not just a stable paycheck, but a sense of fulfillment, connection, and upward trajectory. But have our training models acknowledged people's dreams?

Katie Stebbins 11:23

I think we still chase silver bullets, because that model of workforce development still eludes us. I'm not even sure we've begun to design a workforce development process, a work skills training process in this country, that honors every human being's desire to compete and have a pathway towards a goal. I think we still have this model, this sort of industrial revolution model thinking that if someone has a job that pays enough to make the bills, then they're happy for the rest of their life. I think we don't appreciate in the United States enough, workforce development is really hard. And if you're privileged enough to go on a traditional pathway of high school, to college, to a job, to not having many student loans, you're very lucky in this country. I think if you aren't in that cycle, you know how hard it is to really find a career path that gets you to a place of economic sustainability that you feel you can be resilient.

Brendan Karch 12:22

For Katie, fixing our broken workforce development system in the US is something she wishes politicians cared more deeply about.

Katie Stebbins 12:32

It's possible that there's just a lot of people in decision making roles that don't know how hard it is, that don't know how difficult it is to go to school, and work two jobs, and put food on the table, and the choices of food insecurity and housing insecurity that people are making while they're trying to get that next set of skills to move up. I do believe we need to find ways to much more aggressively, fully fund the individual journey of people in this country to be productive. This old model of, you know, if you work hard enough, you'll get there eventually, I just think you're running through jello, I mean, that's the best way I can describe it, right? You're just sprinting as hard as you can. But you're encased in jello, which has a little bit of give, sometimes you feel like you might be going forward, and then you get slung back again.

Brendan Karch 13:27

supporting workers and learners to pursue their dreams means more than just financial aid.

Katie Stebbins 13:32

Poverty is a really hard thing to climb out of. And the deeper in poverty you are, the harder it is to find a solution for yourself. So I think our workforce solutions have to not only support you emotionally, you know, that the mental and emotional support of doing something completely different and gaining new skills. I think it has to respect to your journey. We need to retrain managers in this country. I am meeting too many people who leave their jobs because their managers are people who were put there because they got promoted, but not because they know how to manage people. So they don't support the emotional and social journey of that employee. And so that's also a limiting factor to growth.

Brendan Karch 14:15

Katie is insistent that government can't go it alone to revitalize cities, but neither can the private sector. They need each other. And one way to combine their strengths is through public private partnerships, also known as PPPs, or P3s. Katie is a fan of this model. In fact, it was one of her main responsibilities when she became head of tech, innovation, and entrepreneurship for the entire state of Massachusetts. But even in this position, she started her work by listening to partners on the ground.

Katie Stebbins 14:50

You know, it was really to have a lot of listening sessions and say, What do you need in order to keep creating jobs? You know, what is your limiting factor to growth? And then how can we help? So we created a lot of programs that would help feed talent, that would add new equipment, just to the startup space, to the academic institutions. But that got back to talent, right? If the academic institutions had the facilities, had the equipment, have what they need to grow the best talent, that talent then trickles out back into the companies. So that public private partnership works really, really well. The question is, how does that translate when you're not in Cambridge, in a Boston?

Brendan Karch 15:30

Public private partnerships are easy to build and thriving economies like Boston's with its booming life sciences sector, and its world renowned universities. Just a bit of public funding can provide the competitive push needed for a well resourced private initiative. But what about such partnerships in a post industrial city that doesn't have strong private organizations to lean on? Well, Katie says PPPs can work there too.

Katie Stebbins 15:57

Holyoke has done very well, since the High Performance Computing Center and came in. There was a lot of public private partnerships that went on as a result of that computing center coming in. While you could say that was sort of a silver bullet, not really. It was a catalyst, to catalyzing a lot of other public private partnerships from it.

Brendan Karch 16:16

Another example of a successful public private partnership comes from Worcester, an hour west of Boston. The area used to be a major cluster for the optics industry. That faded, and industry fled. But Katie still saw legacy knowledge and infrastructure there, and used it to push for a new photonics center.

Katie Stebbins 16:38

So the integrated photonics center was a really good example of that. There's an old sort of legacy optical industrial cluster in Southborough, which is south of Worcester. And you could build on that legacy in Worcester, and in that area to do something. So we pulled in WPI, we pulled in Quinsigamond Community College. And what we ended up doing was creating this great partnership between Quinsigamond Community College and WPI -- WPI, arguably one of the best tech schools in the country -- to be able to take people through that pathway. Go to the community college work, in a lab in integrated photonics, get the initial training, but you're doing it alongside people from WPI, and then have that pathway to keep going.

Brendan Karch 17:25

The result was a 21st century economic revitalization based on building off of 20th century technologies. It's one thing to change a city, it's another to change the world. So many of our challenges, like climate change, or public health, seem to call for big global responses. But do cities also have a role to play? Katie thinks so. She sees a useful interplay between big supranational organizations and cities implementing policies.

Katie Stebbins 18:00

I think back to my early days, as a city planner, trying to -- I would look to other cities. I would look to other places around the world and see what they were doing. And there's a big wide funnel at the top of sort of best practices. And some of them are championed by international organizations like a USAID or World Economic Forum, or UN, and you look at this big huge funnel -- or something like a Brookings Institute, right? And you look at this big funnel of ideas, and you think, alright, how could I adopt that locally? And then you might take some pieces of it, and you might adopt some of that on a local level. I did a lot around like storm drain pollution prevention. And one of the big things at the top of the funnel was: label every storm drain with a little sign that tells people where that drain, what water body, that drain emptied into. So that you'd immediately feel, if I polluted down this catch basin on the sidewalk, I'm going to be polluting my favorite lake that I have lunch next to or that I get fished out of, right?

Brendan Karch 18:57

So Big Ideas can flow down to the cities who are best positioned to make tangible changes. But then these ideas can also flow up from cities to the national or international level.

Katie Stebbins 19:10

Then you'd go to a conference, and you would talk about your experience doing that. I would hear about a brownfield redevelopment strategy, how to redo an abandoned industrial site. I would then try that locally, and then I would go back and speak on my success. And then that

success ends up going back up to the top of the funnel, right. So I do believe that there is a circular economy, sort of, in best practices, and how we adopt these things from the top of the global conversation to, you know, a state to a region to a local and then back up.

Brendan Karch 19:50

Katie spent the bulk of her career in the public sector, but recently moved to the academic side. She now runs a new Food and Nutrition Institute, part of the Friedman School of Nutrition at Tufts University. It's been an adjustment, and she hasn't exactly abandoned her passion for cities.

Katie Stebbins 20:09

My husband says I'm terrible to take to parties, because I just sit and berate everyone for not wanting to revitalize cities as much as I do. And he's like, Katie, not everybody thinks that this is like the most important mission on the planet. Like, how could you not? It's so much fun!

Brendan Karch 20:23

Nonetheless, Katie has found ways to translate her passion for urban growth into the food and nutrition space. After all, food science isn't just about the next big tech. It's also about the social and environmental challenges of keeping our planet and its people healthy.

Katie Stebbins 20:41

I used to say when I was in Springfield: sick neighborhoods don't work, literally and figuratively. So if you were in a neighborhood, absorbing toxic pathogens through air, water, soil contamination, plus you're in a neighborhood where you don't have easy access to a lot of healthy food, plus, culturally, the standard American diet has just become what just makes sense in your life -- it's easy, it's convenient, it's cheap, it's there, and your health has suffered for it. And so I saw that when I was in Springfield, and Holyoke, and I became just hyper aware of it. So this opportunity to take all of this innovation and tech experience and entrepreneur experience that I gained in my role for the state in Boston, and then apply that to this world of food and nutrition, [and] nutrition science, just seem like an absolute win-win to me. Because not only are we advancing things in the world of artificial intelligence, and how that ties in, and big data and how that ties into personalized nutrition. But we're also trying to understand equity and access and social determinants of health, and trying to make sure that we rise all boats and make everybody healthy.

Brendan Karch 21:54

As Katie sees it, food and nutrition really are issues that stick their tentacles into so many public policy domains.

Katie Stebbins 22:02

The issues of food and nutrition are so multi-dimensional, I could argue that it's about robotics and automation, that it's about artificial intelligence, that it's about manufacturing, that it's about logistics, supply chain, human health, environmental health, all of these different pieces.

Brendan Karch 22:19

Whether it's building a city wide innovation economy, or a global network of food and nutrition experts, Katie identifies the same challenges. One of them is that in order to democratize our engagement, we have to listen and experience diverse viewpoints. And for that, she says, we need to be present physically, not just digitally.

Katie Stebbins 22:42

Innovation economies right now are a little bit interesting to me, because we are -- I know this sounds so cliché -- but we are so digital. I mean, I have kids who are teenagers, and their skills are so digital, that the ability to solve problems with their hands, or to solve problems by sitting across from a person face to face, and working through something, I feel like are not as strong. And I worry if everything is an arm's length transaction, how do we really innovate if everything is an arm's length transaction? And it's not really in front of each other working through things?

Brendan Karch 23:22

It's this human connection of being out in the world, confronting and collaborating with people different than us, that gives us the creative empathy to solve problems for others.

Katie Stebbins 23:33

I don't want my kids to feel compelled to solve climate change only because our basements flooded. You know, like it can't feel only real once it's literally in your basement, right? So we have to get proximate. My friend Jen Faigel at Commonwealth Kitchen said, the other day, she said, you know, you got to be shoulder to shoulder and be proximate with people and problems to really put your mind around the problems you want to solve. That's how we innovate. And you respect the people you're sitting next to as innovators. Because then you vibe together. I don't have the solution. But collectively, we can come up with one... You'll never get anything but an upbeat answer out of me because I'm, I'm just by nature a positive person.

Brendan Karch 24:20

All right, well, we can end there. I tried to get her depressing. Trying to get a depressing answer.

Katie Stebbins 24:24

It's not gonna happen.

Brendan Karch 24:25

You just turned it right around.

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