

TECHONOMY

TECHONOMY DETROIT • SEPTEMBER 12, 2012 • DETROIT, MI

How Far Can Innovation Take Cities?

Panelists:

Janet Anderson, Adjunct Professor of Urban Studies, Wayne State University
Gordon Feller, Director, Urban Innovation, Cisco
Michael Littlejohn, Vice President, IBM Smarter Cities
Carlo Ratti, Director, MIT SENSEable City Lab

Moderator:

Bruce Katz, VP and Founding Director, Metropolitan Policy Program, Brookings Institution

DAVID KIRKPATRICK: Carlo is going to stay on stage. Please come on stage. The panel is going to be moderated by Bruce Katz, who is vice president and director of the Metropolitan Policy Program at the Brookings Institution. There is Bruce, and he will be joined by a bunch of other panelists for our discussion, How Far Can Innovation Take Our Cities.

Bruce?

BRUCE KATZ: Thanks, David. First of all, I just wanted to thank the sponsors here and applaud what you've done because you've done two things. One, you've taken a very broad view of technology and innovation. You've said it right at the beginning, David, it's not just about the next iPhone. It's about connecting the dots between technology, innovation, manufacturing.

The second thing you've done is you've nested this in cities. Technology and innovation drive cities, and cities and metros drive national economies.

It takes a long time for the United States to remember that. Right? But 84 percent of our population live in cities and metros, and 91 percent of our GDP. If cities don't perform, the nation doesn't perform.

We are joined here by Janet Anderson, who is an adjunct professor at Wayne State, but most importantly works for city government in Detroit as really part of the restructuring; Gordon Feller from Cisco's Urban Innovations unit; Michael Littlejohn from IBM Smart Cities, and you've heard from Carlo.

It's very hard to moderate, because all I want to do is tweet. But I will try to restrain myself.

I wanted to start with a question that really builds off of Carlo's presentation. This conversation about technology and cities can be a very broad conversation, because we're talking about efficiency and how we manage congestion and how we lower energy use.

We are talking about the integration of data within the public sector, within the private sector, and the combination. We are talking about participation with social media. Coproduction of solution.

My sense, and again, David mentioned this, is the United States isn't quite at the vanguard of this. When I think about congestion pricing, I think about Singapore. You brought up Copenhagen with regard to many of the issues.

I want to start with the IBM and Cisco perspective of the world maybe, Michael. Where do you see progress within sectors and where do you see progress within cities and where is the U.S.?

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MICHAEL LITTLEJOHN: So, Bruce, the good news is that there is tremendous progress across the country, but it's relatively siloed. So we can point to smarter water implementations and smarter transportation and smarter public safety and smarter health care and smarter grid and smarter building energy management, but that's not necessarily a smarter city.

A smarter city, and it was alluded to a number of times this morning, is really all about taking advantage of the fact that a city is a complex system of systems.

And so how do you take advantage of the integration of those systems, the integration of the data, the big data, to move your city, to move your state, to move your country forward?

And that's where we are lacking. And the example I'll use is take a building. And you can have a building and you can implement the best building information management system that exists in the world. And then you can implement the best physical security system that's in the world. And you would be doing pretty well. Okay?

But there's an opportunity there, okay, to even better your operations by integrating the two. Think of the possibility, if you could take the data from the building information management system and the data from the building security system, think of the additional insights you could gain and how you could run that building, how you could manage that building more effectively.

The same principles hold true for a city. Why are we lagging other countries? Mainly because sometimes we can't get out of our own way. It's the way we're set up. It's the way we're organized. It's the way we make decisions that gets in our way, quite frankly.

BRUCE KATZ: Gordon, do you agree with that assessment, or are there pockets where the U.S -- take law enforcement, for example, where we're sort of ahead of the curve. We've been doing this the last 15, 20 years?

GORDON FELLER: Yeah, there are still exceptions, and the question why has troubled us. I think one reason that we now have concluded is the frame that is being used by policy makers. So the frame is about spend. It's not about invest. The frame is about capital expenditures, when it should be about operating expenditures. The frame is good government as the lead, rather than government as the facilitator.

So we're trying to work with our customers in those cities where we see receptive ears and we think the leaders of those cities are hungry for really profound change in the way the city operates and the city manages its business.

Still the exception. But some of them are not the usual suspects. Chattanooga. Not the city on the coast that you would expect on the left bank or otherwise. But they decided to make the investment in building out broadband to every building in the city, and they are now seeing the economic benefits of that.

So it was an investment. It was not just the city government out of city budget; it was through other vehicles. So they were being smart about the investment strategy.

One of the things we've discovered is connecting the dots is hard. It's not something that government workers are accustomed to doing. So this is one reason why things get siloed very quickly. You've maybe seen that in Detroit. We've seen it in a lot of cities. So getting people to break down the silo that tends to be the frame by which they think about their spend, rather than looking across all of the boundaries in the organization chart to say what is it that's going to tie together and force collaboration, open the system to public engagement, maybe even crowd sourced solutions.

So some of the leaders, like San Francisco, have really done things that are pretty smart about building the civic apps that harness not just the wired and wireless networks that are known by the city, but harnessing the public engagement.

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BRUCE KATZ: I'm going to come to Detroit in a second, but Carlo, I just wanted you to focus on this, given your presentation and given what is MIT's global work. And what we're really talking about is cities as networks. And yet cities don't particularly function as networks in part, because government tends to be very compartmentalized and siloed.

And I think your analogy to the building, our buildings are getting wired. But we are not really thinking at a district level or a city level.

Do you see the U.S. at the city scale in the vanguard of particular aspects of technological innovation?

Or are there -- or are there some real opportunities, given what we're seeing in some of the other global areas?

CARLO RATTI: Well, as you say and as we heard before, big challenges have to integrate things, and integration is not easy because of the silos we come from the past. Because, when you have to do cities, cities are made of bricks and steel and concrete and glass. But how to combine all this with silicon, concrete and silicon is something we seem to know how to do, and we need to fight against different departments.

Very few cities actually are bringing together the IT without the type of infrastructure, but now it's more and more needed.

If you want to do -- even you in your -- say a bridge, then you also want to be able to monitor it, to see its condition, to see when we need to repair it. So that's the IT side of the city that has to come together.

So I think that's a part of the issue of how to bring together different parts of city government.

I think another issue is about integrating data. Data is -- you say network, yes, data is in many different repositories.

And there's two ways to do it. One way is to do it at the top. So actually to promote integration in the top and give incentives for companies that have a lot of data, say, about energy, about other type of networks, sharing.

That will work to a certain extent. It works well in Singapore, probably works not so well in other contexts.

I think the other way is what we will see more and more of in the next few years is really using people as integrators, so the data we produce every day. How that can be shared with others, how that can be shared under certain conditions, and that will become the integrator for this intelligent realtime network you were mentioning.

BRUCE KATZ: So as we come back to this -- I want to go to Detroit for a bit, but as we come back to this, I think one of the questions for not just this panel but really for the entire day is where are those pockets of opportunity. Particularly in the United States, particularly with cities in metropolitan areas. Because the one thing about our system is if city X does something within two, three, four, five years, you can see it spread through the system.

In that regard, we are highly entrepreneurial at the city scale with innovating and then replicating innovation, and to some extent then scaling to national, state, and with the private.

So I want to keep coming back to what are those pockets of the silos of progress that we may be able to blow through the system.

Detroit. We are in a great city. We are in a great metropolis. In many respects, it's a tale of two cities. Complicated fiscal situation. As Steve K. said, depopulation over a long period of time, decentralization.

But if you're in the downtown and you take the corridor up to midtown, there is a sense of momentum here.

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So as you think about this question of the smart city, the intelligent city, the integration of systems and data, what are the possibilities as Detroit really wrestles with some very, very hard fiscal and economic challenges? And then what are the barriers? And that potentially can be removed through smart state and city action.

JANET ANDERSON: Well, first of all, Bruce, and the organizers of this event, thank you so much for asking. I've lived in Detroit my entire life, 40-plus years now, and I've worked for the city of Detroit over 20 years. And there is definitely a new focus on the condition of the city, on cities in America as well, because cities are the engine that built this country.

I think what you are overwhelmingly struck by when you've been in the trenches as long as I have is that there are so many silos and breakdowns both within city government and within the region that your example of midtown, I don't think a lot of people realize how many tax increment districts we have in the city that create separate financial and governance structures, so that really as much as downtown looks better than I think I've seen it in my entire life, the benefits of that are not integrated into the old neighborhoods question.

So within the city limits, you have a tremendous overlap and overlay of governmental jurisdictions, right? Separate fundraising ability, separate governance.

Within the region, I think it's 140 municipalities within metropolitan Detroit. As we try to address some of the environmental challenges, how do you bring all these different entities on to one page?

I worry about the capacity for planning, the institutional capacity to make use of a lot of these amazing innovations.

That capacity is broad at this, to make the region competitive in a development sense, that capacity is within city government to be sure that our inspectors even know what green roof and, you know, all that engineering stuff -- you know, how do you keep people's skill sets up to date if you don't have the ability or the mechanisms for reinvesting in your staff?

It has so many layers to the problem. Unfortunately, I've come off as more negative than not.

One positive thing, if I may, is that we are in such a weakened position, that it's forced us to open ourselves to any methods, be it outsourcing, be it complete privatization and leveraging that private effort and capital and just letting you do your thing. In some ways, we could be the Libertarian dream here.

BRUCE KATZ: I saw two people leave the room. Well, crisis begets innovation.

So here is the question. What is the advice for Detroit? Overlap, overlay, not an instant city in China, right? There is no unified government. It's fragmented at the bureaucracy level. And there's this capacity issue, serious capacity issue within government. What is the advice?

GORDON FELLER: Well, I don't suspect that a lot of the entrepreneurs in this room who are the talent pool for the next economy in Detroit are thinking how do I get a job with the city. So, therefore, I mean seriously, the young talent pool, the 20-somethings and 30-somethings are not thinking about the public sector as a career path.

So let's just be blunt and honest. The city is not going to be able to harness the talent that's there that will get the city to the next place. So invert the question. Not how are we going to hire those people, but how are we going to bring them into the process sitting where they are, in universities, in the private sector, in the NGOs that are dynamic and interested in the city of the future.

And the city has to invent a way to do that. Collaborate. Create communities of interest. Harness that talent pool, and give them the resources where it's necessary, if the resources are there.

Now, there's not a lot of city resource. But the city has the legitimization capacity to say you are now the agent of change.

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It used to be the department of X, and the department of X is now really incapable. I mean, this is a hard conversation to have when you're talking about services that should be delivered more efficiently and more effectively by a strengthened city. And that might be years away.

But there's today, there's tomorrow, and there are the years between now and when the city is strong enough to be able to do it for itself.

So this is part of the reinvention process is figuring out what kinds of public-private partnerships are possible that won't violate the law, because there are laws on the books that prevent these things from taking some shapes.

But we've seen in Europe and Asia and other parts of the world really interesting ways of inventing the process of partnering that don't involve giving away public assets and public goods. Nobody is talking about that.

MICHAEL LITTLEJOHN: I think the other thing, I talked about this earlier, I think some structural changes need to be made to how government functions. Right now, there are very, very, very few cities who have any type of an entity that is tasked with looking out and across.

And the way cities are set up now, the way agencies are set up now, the way the budgets are allocated, they do not foster innovation.

You can go to pretty much any agency in any city in this country, and their planning budget, their project plan has been set up for the next three to five years. It doesn't foster innovation.

So having creating an entity that is empowered, okay, to find innovation, to drive innovation across these agencies that has a budget is one of the steps to get there.

GORDON FELLER: And a few cities have actually created the office of innovation attached to the mayor, to tie the assets together, to get the innovative process. Maybe that's one step.

CARLO RATTI: Yeah, I don't know Detroit that well. But it seems to me that those ideas could work. But I'm not sure if, you know, the type of investment from the top, they are kind of top-down solutions. I don't know if they are the -- the key solution here.

I think there's something else. And today I think there's a few discussions about the power between Detroit and Berlin.

Berlin was a city that actually like 10, 15 years ago had a lot of the issues Detroit has. But actually today is one of the magnets for people in Europe. A lot of people from the creative classes moved to Berlin, artists, but also people in many different other type of -- really, the city is a booming city from different points of view.

I think one of the reasons for that is, first of all, it has been very cheap to live in Berlin, much cheaper to live in other places, so it was a good magnet.

But the other point is that the city became like an open platform. And so in a certain sense, I think it's something exciting. If you think about the city and you think about digital technologies, almost allowing people to hack the city, hack the city -- in a tech sense, so people to use the city, to use it for different experiments, to open this as a platform.

And then I believe a lot of people will be excited to come here and play with it and develop new apps and develop new services and so on.

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That seems to me a very exciting kind of bottom-up way to do things, because, you know, the top-down way of creating like an office next to the mayor to promote innovation, you can do it, but then it kind of -- it requires a lot of investment; it's more like top-down approach.

BRUCE KATZ: So just for everyone in the audience also, the brand of Berlin is "poor but sexy" so if Detroit wants to use that, you can borrow it.

CARLO RATTI: But I spent most of December in Berlin with the Guggenheim Museum, it's sexy and it's getting richer and richer in the sense that it's -- this is fostering a lot of economic activity, so the city is really booming.

BRUCE KATZ: So it strikes me that what we have here -- they are not competing visions. I think they're complementary visions, where the city or, frankly, in the case of Detroit, potentially the state, because the state has a very strong role.

Cities are creatures of the state, begin to decompartmentalize, right, what are these silos and stovepipes of government and cut across. That's one way.

The second piece is this notion of almost like a hack-a-thon. Let's take an issue, energy efficiency, greenhouse gas emissions, the low carbon city, right, which is very much off the building and the built environment. And let's see if we can begin to move outside the building space into the district space, so to speak.

Are these competing visions or are they complementary? Can we imagine, particularly with all this bubbling up of tech expertise here, that we can begin to move to some of this co-produced solutions quicker?

GORDON FELLER: Well, coproduction in this case is going to be possible when and if some things happen.

So DTE and the city and some key institutions, like where we're sitting in the university, have to get together and say we want transparency around energy consumption in our buildings. What's it going to take to have a dashboard that you and I can access on our smartphone or kids can access in their school rooms or parents at home that will tell them which of the schools in the city school district are cleaner and greener and smarter than others?

So something that would require some collaboration, that would open the utility to share the data. A lot of cities are now doing this to really change the game, because now I have access to knowledge that will then tell me which school is least efficient, and I'm going to focus on why that's inefficient. Is it not weatherized, is it not lit the right way? Are the kids going to be the drivers, because they're going to convince their parents that kids and parents are going to get that school room cleaner and greener?

So I think one key ingredient here is going to be the collaboration that makes transparency of data possible.

MICHAEL LITTLEJOHN: And, Bruce, I think you hit the nail on the head when you talked about understanding what the problem is.

I just finished up a piece of work for a regional economic development initiative, and that is -- in the southeast that is trying to recover, trying to bring businesses and bring individuals back to the region.

And they went through an exhaustive process. And when I say exhaustive, a few weeks of really soul searching to try to come up with what are the top three barriers to migration into that region.

There were three very diverse barriers. One was the transportation network is very clogged. So the question is how can we apply smarter transportation principles to alleviate that.

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Second one was access to water. How can we borrow on what DC water and Sonoma County water authority and others are using to do that.

And then the third was the spottiness of education; that education is good in some pockets of the region and bad in some. So how can we use smarter education principles, race to the top or whatever.

But it's really much focused on what are the problems. Let's attack those problems and let's take our breath and move on to the others.

BRUCE KATZ: What I take here -- also, folks have questions, the microphones are here. What I take from this conversation, and I want to get your response to the advice, is to think about the city as a network of players, some very large, like a Wayne State, like a Henry Ford medical, even some of the cultural institutions, some of the employers, Quicken Loans, et cetera, think about the city as a network of players that can take their own responsibility. Can actually take the lead, obviously in partnership with the government around certain sets of issues. And then Michael's point about what is the right issue to tackle, right?

Because in the southeast, there's no water. Last time I checked, you've got lots of water in the Great Lakes. Not your problem. But there's obviously any number of issues, whether it's around energy, whether it's around education, whether it's around health.

So this strikes me as a way to get around the challenge of government is dysfunctional, government is compartmentalized.

You've got a lot of agency here. We're Americans, we don't need to ask permission of anyone for anything half the time. Right? So it seems like that might be part of the solution to broaden it out.

JANET ANDERSON: I would like, before I comment about that, I want to be sure on your list of players we don't forget, you know, my brother and sister Detroiters who have been unemployed so long they are out of the workforce.

BRUCE KATZ: Absolutely.

JANET ANDERSON: And real questionable skill readiness, if you will, so I don't want to forget them in the equation.

It's music to my ears to hear planning, definition of the problem, and information flow. Those are the ingredients of planning. It's music to my ears to hear that.

We've kind of had a piecemeal approach. I think of a couple of initiatives in the city in the last decade, GPS chips in our garbage trucks that really tracked routes, helped to analyze in a city that's depopulating. You're talking about trying to redefine routes in a more efficient way, as well as tracking your personnel.

I think of the outfitting the police cars with the cameras, I think everybody has done that, I think. Both of those were seeded with grant money. And we haven't been able to keep up the GPS-- when the grant ran out, we have not been able to keep up with the chips.

BRUCE KATZ: The chips were thrown out with the garbage.

GORDON FELLER: You can actually put the chips in your garbage and track where it goes. Talk to him later.

JANET ANDERSON: Right. Yeah, I think there needs to be that seed money, be it federal, grant, state, but there needs to be this institutional approach that redefines -- we have kind of embraced cameras in police cars. So we now find a way, even though all the technology adds about 70 percent to the actual base price of the vehicle. Between the cameras and the -- you know, the laptops and -- I'm trying to think of what all they have. They have the GPS, whatever all the technology is. So we've had to keep that for so many reasons.

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But it does lead you back to that institutional capacity to plan and redefine good services and then, of course, to fund them.

BRUCE KATZ: Very helpful.

Question?

RODNEY KELSHOE: Yes, my name is Rodney Kelshoe from ITT Tech. I would like to ask the question to Carlos, what do you think key words would do for industry? Do you think key words is a good part of industry and data, stuff like that?

CARLO RATTI: I'm sorry, I didn't get --

RODNEY KELSHOE: Key words.

CARLO RATTI: You mean in terms of attaching key words to the city in terms of --

RODNEY KELSHOE: Key words to different industries and what people respond to. Some people respond to like Google and other people can respond better to Craigslist, something like that. Do you understand what I'm saying?

CARLO RATTI: Not exactly. How did you --

BRUCE KATZ: So you're saying key words, sort of like the search?

RODNEY KELSHOE: Yes.

JANET ANDERSON: How to search the subject?

RODNEY KELSHOE: Using key words.

CARLO RATTI: How to search it, but what do you mean in terms of --

RODNEY KELSHOE: With key words. Do you understand what I'm saying?

CARLO RATTI: I understand key words, yeah.

RODNEY KELSHOE: Like some people -- a lot of people respond to certain words, right? Key words is words that a lot of people respond to, and then some people don't respond to it as well.

CARLO RATTI: I understand, but you mean in terms of adding labels to the city or in which sense? The people who are looking for --

OFF MIC: Organizing concepts and also --

CARLO RATTI: I'm not sure I'm the best person to answer this, in the sense that I'm not too familiar with Detroit, if you mean about key words in the city.

RODNEY KELSHOE: Well, in Detroit, you know, there's certain key words that people respond to. Kind of universal, in a way. Or what language you speak. Like key words that American would speak wouldn't respond to a person that lives in Singapore more or less, right?

Where I live at, the economy I'm in, you know, more people respond to Craigslist, say, than more or less Google or Ebay or something like that. Because it's more attached to their economy, getting something for less, you know what I'm saying?

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CARLO RATTI: Yeah, yeah. And I agree with you, I mean, to be honest, I'm not the best person to comment on how this could fit into --

BRUCE KATZ: I think you're also raising sort of a broader issue, particularly with regard to the application and deployment of technology in different cities, right, that have very different starting points, right? In terms of race, ethnicity, employment, right?

So this conversation which we sort of engage on about efficiency, allocation of scarce -- it's hard to translate at times.

And the interface of individuals to the quote-unquote tech and innovative economy is radically different in different parts of the country. That is a really interesting question. Particularly as it goes forward in a city like this, and there is a whole range of cities that have depopulated radically in the United States and have large unemployment.

How does this -- it changes, I think, the nature of the deployment or the nature of the exercise.

Anyway.

RODNEY KELSHOE: I asked Carlos, because I thought he was more a technical person --

BRUCE KATZ: I may be the least technical person, though I do tweet like a maniac.

Next question.

TODD NELSON: Hi, my name is Todd Nelson, and I'm a Venture for America Fellow in the City of Detroit and also at NextEnergy Center.

I have a question for all of you. One of the things I've heard talked a lot about here is this technology, the software, the data collection, is a means to an end.

One of the things I've noticed within the entrepreneurship community in the United States and the conversation surrounding it is that the end is some type of like social media application or some type of app.

So I wanted to ask you all what you think about connecting the two. I think there's an enormous power in social media, knowledge collection as a means to an end. But the conversation is too often as an end in itself, in the creation of the app.

How do you think we can bring the two together and what applications? How can we get that conversation started? Because in my field of energy and renewable energy, that type of like leveraging knowledge technology, information technology could be incredibly powerful. But I think there's a divide between the two cultures that could be bridged.

BRUCE KATZ: Absolutely. Great question.

Thoughts, comments?

GORDON FELLER: I will say we talk to a lot of mayors who want to create networks of allies for the projects that the cities are undertaking. Partly because they want to have access to all that knowledge and resource that that social network can help the city tap.

And that's an understandable thing the mayor wants to do. But it's very opportunistic, a little bit mercenary. I want to build a social network in order to be able to accomplish my goals. We have to explain carefully to those city leaders that often the people in the social network have different ideas about how to go about the process of changing schools or improving buildings or making mobility and transit more efficient and more affordable in the city.

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And often you get results from the social network that you weren't necessarily expecting when you asked them to participate in the conversation.

So city leaders that we talk to who have been through this process actually realize that it probably was worth it, even though it was painful, because they came under withering attack for assuming when they start the social conversation with their citizens that that's going to result in the policy that you started your assumptions with.

And we have to basically say to mayors: If you really want to open this process and get the public engaged, don't start from the assumption that your ideas are going to be the best ideas or they're going to be acceptable.

That is a good, humbling experience for city leaders, to realize that the social network that the city is engaged in on project X, Y, or Z is actually not going to deliver what they expected at the outset, but maybe something a lot better.

MICHAEL LITTLEJOHN: But I also think that there is a -- to the gentleman's question, there is a growing opportunity to engage the general public in solving some of these problems.

If you go back to the example I used about the southeastern region where water conservation was one of the bigger barriers to economic development, there are some things that the city and the region needs to do.

But there are also -- there were things identified that -- where if we were to distribute the data to the general public on water use, that would spawn behavior.

So there's an opportunity there for social media, for smart apps to engage developers -- to engage developers to help engage the general public in this big data umbrella around water conservation.

BRUCE KATZ: I think that's critical. It gets back to your other point about trying to set priorities, meet people where they are. People in the southeast understand water shortage. Right? This is a huge issue, and it sweeps across a good portion of the sunbelt.

The crisis in regions like this one is the talent mismatch, is the question that goes back to the earlier panel, how do you diversify this economy, build off this powerful production base and sort of set a trajectory going forward?

That, I think, is really the fundamental issue in most parts of the midwest, you know, given the last 30 or 40 years of industrial restructuring.

So it gets to this question, this really powerful fusion of setting some goals, setting priorities, and then figuring out how technology is one of the vehicles for achieving that, right, which is really the power of all this.

>> And engaging the citizenry.

BRUCE KATZ: And engaging the citizenry, absolutely, crowd sourcing. These are different cultures, really different cultures we're talking about. But if they're fused and if they're pulled together, which requires leadership across broad network, then you do have a 2 plus 2 equals 5 kind of effect, which is very powerful.

GORDON FELLER: But most city leaders, truthfully, don't understand that this is the connector between citizen and city, and there has to be an intelligent way of engaging around the super computer that we're carrying around in our pocket that is a social media device, it's a tool for transparency. Because I would like to know how efficient my municipal buildings are, since I, the taxpayer, am paying those energy costs. Those kind of things don't get connected yet.

BRUCE KATZ: Question over here.

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ANTHONY PELEGRINO: My name is Anthony Pelegrino, and I'm representing the School of Business Administration for Wayne State.

Taking it back a little bit to seed money. Asking -- we mentioned the Fed and the state, grant money. Asking the Fed and the state I feel right now is kind of a long shot with the current state of both the budgets and across the board cuts. So I'm kind of curious. Where can we channel some new funds?

And also, if anyone could shed a little light on the benefits of foreign investment as well.

BRUCE KATZ: Great question. We are going to see the federal government scale back in this country. It's not a question of whether, but how much, where. The state has got issues. How do we think creatively about public-private financing vehicles.

JANET ANDERSON: I should acknowledge, if I may, that Detroit has had a tremendous commitment from its foundations in the last couple of years. And that includes funding, a massive planning effort, the Detroit Works Project meant to address the geographic changes, patterns of depopulation in the city.

You know, the thing about grant funding is you're kind of the puppet on the string. Your priorities become what is fundable, and once the funding stream runs out, because it's meant to be seed money, you still have to figure out what is it that makes us do what we do better.

So I guess I don't want to focus too much on the grant funding. I want it to be part of our operating --

BRUCE KATZ: Particularly when at the end of the day, if you do this right, you lower energy costs radically. Not just for buildings, but for cities. There is a whole bunch of tangible metrics that you can use to help seed private finance.

CARLO RATTI: And one also, to respond to the previous question and to this question, it seems we can look at cities in two ways. One way is top-down. We've got all this technology in cities that are becoming like commuters in open air and how can we optimize them. Yes, you need a lot of government investment to develop the platforms to do this from the top down.

But the other option is really how can we see the city as a bottom-up platform? A platform where everybody can leverage the computer. The kind of computer power higher than what NASA had during the Apollo mission that each of us now has in our pocket.

How can we leverage this in order to promote new behavior and new action in a bottom-up way. And if you do this, I think, you know, then you don't need that much money from the government.

In that case, you just seem to be like a catalyst and then things will happen. So maybe small grants from foundation can be much bigger, because you leverage then the power everybody contributing to the system.

BRUCE KATZ: I want to apologize to the other folks who wanted to ask questions, because we have 44 seconds and counting down.

Last, I think this has been a very interesting panel to sort of break out of the traditional, the government needs to do this, it will be top down, we need a variety of interventions. And the bubbling of energy in this city, in the downtown, in the midtown gives some real hope here.

But Detroit can be -- you know, it can be a petri dish for a lot of different kinds of innovations and interventions, if we think about it that way.

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So I think that's part of the challenge, David, as you go through your day. How do we send that signal that at this point in time, you know, in this city, in this metropolis, in this state, it's time to innovate and experiment.

Thank you very much.