



After Immunity: Understanding the Post-COVID-19 World¹

Episode Six: The Urban Environment After Immunity

Interview with Shauna Brail

Published on June 2, 2021

Ian T. D. Thomson [IT]: Shauna Brail is an Associate Professor at the Institute for Management & Innovation, University of Toronto Mississauga and is a Senior Associate at the Innovation Policy Lab in the Munk School of Global Affairs & Public Policy. She is also a faculty affiliate at the University of Toronto Transportation Research Institute. She is an economic geographer and urban planner, and her research focuses on the transformation of cities as a result of economic, social, and cultural change.

Shauna, thanks so much for joining us.

Shauna Brail [SB]: Hi Ian. Thank you for the invitation.

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IT: So, I guess a good place to kind of get us in the right direction would be just to kind of understand the components of an urban transport system. You're the expert in this. What are some of the components that make up a successful urban transport system?

SB: You know, that's a great starting point because we don't always think about how it is we get around in the places that we live and how we travel to meet both our sort of daily needs, how we get to work, how we get to health care appointments, meet with friends, et cetera. But mobility, the way in which we move from one place to another, is a critical sort of piece of life, regardless of where one lives. In a city, the components that make up the transportation system are things that are, you know, we have to think about-multimodal. How many different modes of transportation are available to people to get around? The vast majority of Canadians are people who drive in private automobiles. We've done some work looking at the proportion of trips taken by private automobile to work in Canadian cities, and overall, in most cities, it's well over 60 percent. In Edmonton and Calgary, they are the car driving capitals of Canada. It's much closer to 80 percent of trips to work are in private automobiles. But we also have other ways of getting around that are really, really important to facilitating both equitable access to transportation, thinking about affordability, thinking about people with mobility challenges, but also thinking about active transportation. How do we encourage people to use their own power: walking, cycling to get around? Public transportation systems are a really key piece of an urban transportation system because they do a number of things. One, they allow for many people to travel to the same location, so I'm thinking the trip from home to work, especially if there's a bit of a distance there. Where we have a lot of people working in sort of dense environments in workplaces, perhaps living a little more sort of, you know, dispersed, lower density; in order to get all of those people from home to work, a public transportation system really

helps remove congestion from the roads, it helps speed up the trip to work, and it also helps facilitate other kinds of environmental benefits as well. You know, we also in most cities, most Canadian cities, all Canadian cities I think, have public transportation systems that include busses, right? Busses are essentially, you know, they've been described as the workhorses of public transportation systems. They actually are what drives the system to enable us, sort of a network approach, right? So whereas we might have one or two or three subway lines, we might have one hundred bus routes or more. And those bus routes are really critical to reaching out to neighborhoods, to bringing people to where they need to go.

IT: That's a really helpful place to start, and talking about the different components, different ways that people get from point A to point B. So obviously with this series we are talking about the pandemic and how it's kind of affected that urban transport system. But I think a helpful place to kind of frame us with this is understanding pre-pandemic. How were transit services, such as the busses, such as the public access system, how are they doing all before this, how would you kind of characterize transit systems before the pandemic and their various issues?

SB: There's a lot of evidence from cities around the world that ridership in large systems has been declining. In part, this is a result of a lack of investment. So if your transportation systems are breaking down, if they're unreliable, if they're overcrowded, this is a disincentive for users who have a choice, whether or not to ride on public transportation. And so when there's choice and money is what buys that choice for the money and, well, money essentially buys that choice. There were the real risks around loss of ridership because of infrastructural kinds of challenges. The other piece in here is around thinking about, again, transit systems in cities across Canada looking at patterns of growth and

change in population growth. And in Canada, while we have great concentration of the population in a relatively small number of metropolitan areas, what we also have is the spread of that population, the dispersal of that population to more suburban areas, which means that the way the sort of efficiency and effectiveness of public transportation that can serve low-density neighborhoods is very different from serving higher-density neighborhoods. And so we really have to think about how do we match public transit services with land use activities and land use plans. So on the one hand, there was and there is a renewed emphasis on creating denser neighborhoods so that they can be better served by things like public transit, which has a lot of benefits. But then also thinking about how do we actually encourage people living in lower-density neighborhoods to use public transit? So do we test out an autonomous shuttle service? Do we look at different sizes of busses, like not every neighborhood requires the same large bus? Maybe we have some minivans. Maybe we have smaller shuttles. And then the other thing that was going on, in that cities were starting to test out were thinking about instead of fixed routes for transit, on-demand routes, Right? Which is essentially the ability by using technology and a piece of software that prospective sort of bus rider or prospective transit user says, I'm starting here and I'm going here and using an algorithm. And its software, very similar to ride-hailing software, matches up different busses with passengers and takes them around on the route, which technically can be faster and more efficient and serve more people than having fixed routes. So all of these were things that cities across the country have been experimenting with.

IT: That's interesting to kind of get that pre-pandemic perspective of some of the issues that cities were facing, especially in the last couple months, you're hearing stories that are rather consistent in terms of now there's just been issues have been kind of exacerbated. And the one aspect that you drew upon was kind of the lack of investment in some of

these transit systems and, of course, the decline in ridership. And one of the stories you heard, especially on the onset of the pandemic, has been that significant decline in ridership and the subsequent kind of declines in revenue for cities because of that ridership. How would you characterize the shifts we've seen in terms of transportation throughout this pandemic? Has the pandemic essentially just exacerbated issues that were already kind of at the forefront before the pandemic?

SB: There are a lot of issues that the pandemic and a lot of problems that it has exacerbated, but when we look at mobility in particular, and here is a case where we see the need for new sources of data. And I sort of started to talk about this and like what was happening pre-pandemic and how are we using data and the opportunity for sort of smartphone and app and algorithms to route bus passengers. But we have to think about how technology and the collection of data has helped us understand the impacts of the pandemic on cities and on transportation in particular. And so I think one of the positive things to come out of our responses to the pandemic is the ability to look at new kinds of data and the release of data that shows mobility patterns. And when we look at that data, whether it's Apple mobility data or Google mobility data or Move It, which is a routing firm for transit trips, and they collect data, all of these collect data for cities around the world. When we look at the time of lockdown in sort of March 2020, we see all mobility, walking, driving, transit. Imagine a cliff; it just falls right down that cliff. And so I am looking right now at a diagram of this on this dashboard that I've been working on called Toronto After the First Wave. But you can look at any city around the world whenever their first lockdown's started, boom! It just goes straight down. Everything goes down at once. The thing that goes down the most, though, is transit. Transit falls the most. And what happens then is both walking and driving pick up a lot more quickly and return to near pre-pandemic levels or even exceed pre-pandemic levels. But in almost every city around the world, and

I think all cities in Canada, transit use continues to be far lower than it was before. It is not recovering. It is, you know, it has not recovered. It is a very slow recovery. If you look, for instance, this week at TTC data on the percentage of mode use compared to pre-COVID levels, subways are at 20 percent. That means it's down by 80 percent. Streetcars 23 percent and busses 38 percent compared to pre-COVID levels. So everything is very significantly down. This is expensive, and it's a problem that we're going to face moving into not just the immediate future, but a much sort of longer future because of the ways in which municipalities rely on transit revenues, transit fares to both cover the cost of providing transit, but also as a really key service that these municipalities need and want to provide. The other piece, I would say that's a real challenge here...I mean, it's wonderful that walking and active transportation is up. It's less wonderful that driving is up. Driving is up because people feel safer in automobiles, right? They feel safer, we're worried about physical proximity. So you're in a car by yourself. You don't have to sit next to anybody. You don't have to breathe anybody else's aerosols. But the more cars we have on streets, the more we have greater congestion, the more we have greater emissions, the more we have more accidents or crashes, and the more likely it is that people will be less likely to return to transit. And we've seen this in all around the world where we've seen the sort of return to activity. So we knew this was coming when we could look at data. I have a survey that came out of China about a city in China about intention to purchase a vehicle back in April 2020. Intention to purchase a vehicle back in April 2020 as Chinese cities were emerging from their very extreme lockdowns was way through the roof. And then just this past summer, their story started to come out: What's happening in New York City, where there is very low levels of car ownership, car ownership rates have skyrocketed. Intention to purchase a vehicle has skyrocketed. And you know what? The big problem is no one can find a parking spot because there aren't parking spots for that number of cars, and that's sort of the structure of the city and to focus on sort of a walkable, dense area. But

this challenge between the increase in driving and the really dramatic reductions in transit is something that's going to stay with us for a while unless we direct it to a better future.

IT: Yeah, yeah. That's fascinating to see. Just the real-time, this is what's happening. So insofar as that goes, so you talked about this in terms of the short term, you know, these people are more interested in buying cars, public transit services are down and they seem to be, you know, the growth rates are still at a very low level. Is that something we're still going to see in the long term in this post-COVID-19 world? Will people still be apprehensive about being or taking part in public transit systems if they're kind of underfunded?

SB: Yes, this is not a problem that's going to go away by itself. A study came out recently in a journal where they looked at the case of some Dutch cities and, you know, how could they bring riders back to public transportation systems? And the finding focused on building trust. And in order to build trust, you need to think about what kinds of short-term changes do you make in your transportation systems, right? So we've started that, you know, we require masks. We've increased the number of cleanings. We've changed the capacity on busses and on subways, right? We've reduced the capacity. But in addition to the need to build trust, there's still a need to continue to invest because it will become a self-fulfilling prophecy, if we say, well, 80 percent of subway riders are not on the subway, we don't need to invest in the subway. We can run our subways just, you know, less frequently or we can run our busses less frequently or we can get rid of these routes because they're not serving any people. And as soon as you do that, you provide another incentive for people to look for a different mode of transportation, but also take away an opportunity for people who have no other choice to be able to move around. And so you are exacerbating not just mobility challenges, but all kinds of other issues around ability to

earn an income, to go to work, to socialize. And so from an equity perspective, things will get a lot worse if we don't continue to invest in public transportation services.

IT: I'm really glad that you mentioned that point just because that's something that I think is an important element to public transit, is the fact that this is an essential service for a number of folks in the community: older adults, those in low income that do need to get to work. From what I'm gathering from this, it sounds like we still need to invest to ensure that it's reaching those populations. But how might you see on our current trajectory, I guess, how might you see the changes we're seeing in the transit service delivery model affect these populations, and how might that kind of change in the post-COVID-19 world?

SB: I want to take one step back first to say that one of the things that has to happen are changes to the funding model for public transportation. And right now, the greatest burden for funding public transportation falls on municipalities and throughout the pandemic with ridership down yet with the notion that this is critical to providing, and that it's an essential service for so many who, without it, could not function in society, could not manage, could not participate. We've seen, at least temporarily, efforts to help municipalities sort of bridge this challenging time with funds coming, with more funds coming from both the provinces and the federal government. And it sounds like and it looks like that's going to be critical going into not just the near-term future, but a longer-term future that we need to really rethink the funding models. And I say this now because this is part of thinking about public transportation as an essential service and thinking about the role of all levels of government in funding quality of life and opportunity and access to participation for all people, you know, for everybody in Canada. But I think your main question was trying to get at, you know, what are the challenges from an equity perspective. Is that right?

IT: Precisely. Yes.

SB: So, and I talked a little bit about the role of data and helping to inform policy changes, service changes during the pandemic, so data plays a big role here and understanding, for instance, how to reprioritize service on different bus routes during a pandemic. So collecting data about the number of riders and users on different bus routes and understanding, for instance, where frontline workers live within a city and understanding where they're traveling to, what their travel patterns are, means that it's possible for public transit agencies to look at this information and to say, OK, we have very low ridership in this area here because maybe this is a neighborhood where there are more people who are able to work from home, and we have much higher ridership in this neighborhood here. And this is happening in cities. And so we need to increase service levels in this neighborhood to make riding transit safe. And we can decrease a little bit here. But we've also seen, I mean, I know there are some US cities where they've just started cutting back completely transit routes. And this means, one, that we could see either people pulling back from participation in the labor force, right? If you can't get to where you need to go or making decisions about labor force participation that don't enable them the greatest opportunity, but that allow them to stay where they are. Or we could see people moving in order to be able to access the kinds of services they want, which is then going to put pressure on rents. And so it really is cyclical, you know, whether and where we have transit services really connects to where people can live, whether they can participate in the labor force, whether they are isolated or not. And that's aside from the issue of, do we trust public transportation right now enough to get on the bus?

IT: Mm-hmm. So, you're talking about the role that data has in kind of seeing forth and improving urban transport systems. And in my view, that kind of falls under the larger

umbrella of innovation as a whole. And you've previously talked about how COVID, it's a chance to kind of re-envision what cities can look like as well as where we want them to go. And data is just one part of this. When I think of urban transport, I think of all of these things in the headlines in terms of electric vehicles, automated vehicles, expansion of, say, bike lanes, rapid transit systems in some of these larger cities. But then here comes COVID. And so my question is, where does the future lie for these very bold, innovative transitions for urban transport systems?

SB: Well, it's a billion-dollar question, I would say. You know, at some level when COVID hit, the narrative was there's no space now for platform firms, for instance, for ride-hailing, right? As mobility fell off a cliff, nobody got into a ride-along vehicle, just like almost nobody got onto transit at that time. But what we've seen is that the flexibility and the ability to pivot some of these activities, as well as the ability to take advantage of the kind of technological opportunity. So, for instance, you know, we're seeing more efforts and more innovation in autonomous, robotic-driven picking in grocery stores and in warehouses, right? And that's going to at some point translate onto our streets, too, right? So is there more effort in thinking about autonomous delivery of goods? I would say that there is, that we're starting to see a lot more discussion about things like autonomous cargo delivery, right? And on the one hand, you might be thinking, well, this doesn't have to do with how people get around, but it does because every time an item is delivered autonomously, it means a person isn't going out to get that item. The other piece around sort of the role of technology and the role of these kinds of innovations, well, you know, we're still seeing progress in electric vehicles. We've seen, you know, throughout the pandemic, the transit agencies that were shifting to electric have continued that shift. What I think we need to see more of is thinking about how to sort of leverage or repurpose transit funds and transit activities to serve shifting priorities and shifting needs in cities. So

right now, 30, 40, 50 percent of people who live in cities, depending on the city and the number of those working in positions where work can be conducted from home, we're seeing a lot more activity at the neighborhood level as opposed to movement across the city. And so what are the opportunities for thinking through how do we promote and encourage new ways of getting around in neighborhoods, right? Now some of that doesn't have to be technology-based, right. Some of that is around improving pedestrian infrastructure and accelerating the development of bike lanes and bike programs, you know, bringing in more e-bikes, for instance, into some of the public bike systems, which allows people to go further perhaps, or allows for people who otherwise couldn't cycle a distance or up a hill or whatever it might be to be able to use any bike. There is an opportunity to help people shift modes. I mean, currently, when we talk about cycling, we're looking, you know, if we look at a city, at any Canadian city, even with a strong cycling network, we're still only looking at small single digits, only in terms of total proportion of trips in the city region. And so this is an opportunity to think about how do we shift behavior? What kinds of things do we invest in? Are there regulations that need to be updated at the municipal level? Do we want delivery robots bringing people food instead of having people go out to get them, right? There's also been a huge kind of growth in food delivery, right? Because at least in Ontario, our restaurants have been closed to indoor and outdoor dining for several months now. And so the only way to purchase a meal from a restaurant is to either pick it up yourself or have it delivered. And so we should be thinking about the role of sort of logistics and delivery networks in our cities as well.

IT: From the sounds of it, and correct me if I'm wrong, it kind of sounds like, you know, the innovation of automation, automated vehicles, a little bit of the digital ride-hailing will kind of start from this idea of the foodservice delivery. And then maybe would you say it would move on to other aspects of our service delivery models, of other goods and services?

SB: I think there is a huge opportunity to learn from what's been happening in foodservice delivery during the pandemic and to build on some of that in ways that are positive.

IT: Mm-hmm. Mm-hmm. Another aspect that you mentioned was a little bit of having transport services take into account neighborhoods a little bit more. And throughout this pandemic, another angle of this is the future of work and a little bit of the exodus of city dwellers. And so it's, again, that change of how we work, where we work and in some cases, the change of office culture as a whole. And so people are increasing remote work. It's shifting commuting patterns. So how might you think that this shift in the future of work, how might that shape Canadian transport systems, and how they are designed?

SB: First off, I'll just say that we know cities are going to change permanently as a result of, you know, changes that we've undergone through the pandemic. And one of the most notable of these is this shift in the success of working from home and the ability to be productive from home and employee satisfaction. But what we, it's too soon to say how permanent these shifts will be. There's some sense that at least a portion of it will be permanent. But increasingly, I'm hearing firms saying, firms who were saying, our employees can work from home for as long as they want, are now saying actually there's going to be a requirement to be in the office X percent of time and we don't know what that time is yet. So I'm concerned that a lot of this discussion is premature, and yet at the same time, it's really important to plan for a variety of scenarios so that we are prepared. So when we think about what does this mean that the neighborhood level and what does this mean citywide and particularly in terms of transportation, I do think that neighborhoods and municipalities, as places of many neighborhoods, need to think about local infrastructure, perhaps a lot more than they had before, to really think about the quality of public realm

and public space and streets, our public space, right? So 30 percent of our cities are comprised of streets. How can we use those streets differently, better, right? How do we think about improving the sidewalk space, but creating space for bikes, creating programs where bikes are available for those who don't own one or for those who just want to borrow one for a short period of time? Do we take away some of the neighborhood street space and devote it to other uses, whether they're commercial or noncommercial uses? And then how do we think about, you know, mobility in a neighborhood that's equitable and that provides sort of accessibility for people at a range of life cycle stages and at a range of income levels? And so I think it's partly a mobility question, but it's even more importantly, a public realm question because we have seen that our outside spaces have been the sort of, the salvation, the savior during this time and so we've sort of developed a new appreciation for the outdoors. And maybe then that means we need to think about how to shape the outdoors differently, including, you know, reusing some of the spaces that are devoted to private automobiles and how do we reshape those spaces to make sure that they are accommodating of far more uses and activities?

IT: Yeah, that's a really interesting kind of frame to think about this question, because I think, you look at the headlines, there's all these stories about how Main Street's dead. You know, this is the death of the city center. But what you're saying...

SB: It's not.

IT: Yeah. Yeah, exactly. And it sounds like, you know, more companies are saying we need to kind of embrace a little bit more of that office culture and getting back to the old normal, I guess you could say. But that's fascinating in terms of just thinking about this, in terms of a land-use question, how do we adequately take into account, you know, as you

said, people have to go to parks, they want to go to parks just to kind of get some fresh air, and how that's kind of incorporated into the question. I want to ask, just in terms of keeping with this idea of the downtown area and the impact that it has on specific stakeholders, specific groups. And one element of this is kind of the small business owner, the small, medium enterprises, and how they fit into the equation. How might you see those small businesses surviving or transforming in the post-COVID-19 world based on kind of what we're saying in terms of innovations?

SB: This has been, by all accounts, a hugely challenging time for small businesses in particular, because they don't often have the resources needed to weather out such an enduring storm. So what we've seen is there are a few ways that small businesses have been able to make the transition to really just survival mode during the pandemic, and I think that that includes really three things. One is embrace digital, right? For anyone who didn't have a digital presence before, there are lots of sort of turnkey solutions both offered at the neighborhood level, right? By business improvement areas, by sort of other sort of business, small business focused organizations that help businesses go digital quickly. The second piece is to embrace the space in front of the small business, right? So whether it's a strip mall or a sort of street-facing Main Street facing business, thinking about, and this involves communication again with an association, but also with municipalities around how do we get to benefit from some of the space in front of us? Can we use the sidewalk? Can we use part of the street for a pop-up, et cetera? And then the third piece is really around collaboration with others in the neighborhood, right? It's around building rapport, it's around building community at the neighborhood level. And if you think about it, we've seen a lot of initiatives, again, across the country around focusing on building up support for local businesses. You know, aside from the other sort of financial supports or rent supports, around driving sort of customers and clientele to smaller businesses and to

bringing people together into neighborhoods, into these both digital storefronts, but bricks and mortar storefronts in ways that are safe, but also in ways that help to ensure the sustainability of streets that are home to small retailers and restaurants, cafes. These are the life of our cities are the neighborhoods.

IT: Mm-hmm. Shauna, this has been an incredibly valuable conversation you provided. Just some very innovative ways to think about the future of our urban transport systems and what are the angles we should think about when we're thinking about urban transport and the post-COVID-19 world. Do you have any concluding thoughts on Canada's urban transport system, the future of work after immunization in the post-COVID-19 world?

SB: Again, I've said this already, but it's a time of just terrific uncertainty and not terrific in a good way. And what I would say is that we need to prepare for the world we want, not the world we're going to get if we just let things happen. That in order to be able to come out, able to sort of build back better but to create a society and a city and instead of spaces that do what we need them to do, they get people where we need them to go, that prioritize, you know, sustainability and equity and prosperity for everyone. We need to really be direct and intentional about how we prioritize and how we invest for the future. We can't just let it happen.

IT: Shauna, thank you so much for your time. I've gotten a lot out of this conversation. I'm sure our listeners will as well. Thank you so much.

SB: Thank you.