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Welcome to the Future Fix. I've covered enough city council meetings to know our politicians, public servants and various agencies can all tend to be sort of risk averse. I've heard many debates about all the reasons not to consider even trying something new. And there are reasons: political safety, legal, etc. But what gets me excited is when people are willing to experiment. What if we tried something out on a small scale for a limited amount of time, all the while gathering data about the results of pilot projects, a pop up an intervention, call it what you want. That way, we can actually have informed debates about ideas instead of dreading aloud what could possibly go wrong. Sometimes, it's what we need to move forward with a good idea whose time has come. And mobility is one field in particular, where experiments and ingenuity can really take things to the next level. You're listening to the Future Fix: Solutions for Communities across Canada.

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This is season three of the Future Fix, an audio exploration of the way technology and data are shaping communities across Canada. I'm Glyn Bowerman. Each episode, we present community challenges and solutions and take you to places large and small from coast to coast to coast. In this episode, we take you to the west coast to talk about experiments and research and public transportation. Camille Machado is project manager in new mobility for TransLink, Metro Vancouver's transit network, Camille walks us through a number of fascinating experiments happening in that city that may have implications or provide solutions for transit all over Canada.

02:39

Camille, I wanted to begin by asking you what are some of the transportation barriers for the people in the Metro Vancouver are because I assumed that they would be a lot of people in Canadian cities would have they could relate to it. So I wanted to ask if there are specific barriers for transportation in Metro Vancouver or just in general in a Canadian context?

03:01

Yeah, especially from the new mobility point of view, we have been seeing a lot of new modes coming. So we have new opportunities. We have now ride hailing, and we have micro mobility devices being deployed on the streets. So really, making sure that transit is still relevant and that people have more options, I think is one of the biggest challenges and making sure that this transition and disconnection between modes, they are more seamless, so people can actually rely on them on the day to day. I think that's one of the biggest challenges we are seeing lately.

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And can you tell me what the new mobility lab is for TransLink?

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I don't work directly with the new mobility lab. But basically, that's our initiative to work with academia, to develop research on things that are relevant to us and quite new. So we have research being deployed, for example, the impact of ride hailing because they were deployed in 2020. So they're quite recent, for Metro Vancouver. And we have like on blockchain or like many other things that are related to transportation, but they are basically new and it can change a lot in the transportation field, but they are quite new. So we want to learn more. So that's the main objective of the lab.

04:18

And for you, as a project manager in this new mobility world, what is what does that entail? What's the day to day for you like?

04:27

So we have TransLink Tomorrow, which is our commitment to continue to explore to test and implement innovative ways to improve mobility in Metro Vancouver. So that being said, we have many initiatives and among them, we have what we call pilot projects where we are trying new things. So as a project manager, my role is really to work on the pilots in the implementation to make sure they align with our long term strategy, which by the way, we approved in January of this year. So it's a very interesting document also to go through. And basically, it's working with vendors making sure it's aligned with strategy and deploying the day to day. We have pilot projects on areas like on demand transit, on mobility as a service, on carpooling, promotion of carpooling, for example. So there are like, a vast array of pilot projects that we are testing within the organization.

05:28

Yeah, and I'd like to go through some of those pilots, if you don't mind. Starting with the shared mobility compass card. I think that's a lot of administrations all over Canada have been trying out a variety of different fare mediums, and all kinds of things. But there's something really interesting about the shared mobility compass card, can you introduce that for us?

05:50

Definitely. So the shared mobility compass card was our first mobility as a service pilot project. So you ran between October 2019, and August 2020. And during that period, we have approximately 160 employees from 13 selected businesses in Vancouver. And all these employees, they receive what we call a special compass card, which basically.... so compass card is the card that you use to access transit. So for that particular program, that card would not only access transit, but serve as an access token for bike share, and car share as well. So as long as people could tap the card, they would have access to the bus to train to ferry to car share and the bike

share, that information will be captured. And all the billing was sent to the companies at the end of each month. So no paperwork really streamline the process. But that program was very tailored to address work related travel. So how we could make work related, travel more efficient, more sustainable, and also provide an alternative. So people don't need to drive when they have these kind of trips in the middle of the day. So we had very positive feedback. And now we are working on what we call a phase two, unfortunately, it's coming, but we cannot disclose much. But what I can say is that will be much more technological solution. So for phase one, we didn't have an app, for example, we're basically addressing the payment piece, and integrated payment and very similar as in terms of the actual travel, but people didn't have an option for planning, for example, the trip when they are talking about multimodal trips. So for phase two, what we are aiming is to launch an app base. So mobile app base where people can plan their trips, they can book they can pay, they can do everything within their app, and keeping also transit or bike share and car share, at least at the beginning and then expanding over time to other modes as well.

08:00

Great. And what kind of employers did you reach out to imagine, this could be used for any major employee centres, like a university and airports? That kind of thing?

08:11

Yeah, we have, we tried to reach out there are kind of a wide range of employers. So we have like smaller large organizations, we have private public organizations, we have startups. So what we did was to try to locate companies where all the servers were available, so that would be meaningful for them. And then we invited almost 90 companies that we all have contacts, and then we ended up signing a contract with 13 of them that accepted to join the program. And I think a very, kind of an interesting way of kind of showing that the program was adding value was that when the COVID came, the program was supposed to start in May, but we didn't have enough data. So we decided to expand into August, and all the employers decided to expand and sign agreements to expand that, because they really see the sort of value. And they also, some of them asked for a more permanent program. The big challenge for us was really the technological piece, because there was a lot of manual work, we always designed the program to be a project with a start and end because of resource allocation. So we knew since the beginning, we would need technology to help us both in the front end. So the users would be we have more options for like to planning and booking, for example, and also in the back end for all the billing and streamlining audit process. So we wouldn't be that manual if we decided to scale up.

09:40

Yeah, I think a good place to go from there would be to get into

Vanpool. Can you explain Vanpool for us?

09:48

Yeah, so Vanpool is a program that we have been developing since 2018. Right now is a partnership with UBC and we deploy that using Karcher as well. So once the employees arrive to their destination, that van is actually available to anyone who needs to use until the time they have to commute back home. So we have around 50 people joining. And we are in the process of expanding. And we also have deployed many surveys with big employers here to understand their needs, of course, that we don't want to deploy Vanpool in downtown Vancouver, for example, is really targeting places where biking, cycling, walking, and transit, it's challenging for the employees. So we targeting industrial businesses, like big employers, like our universities, and so on. So idea is to really expand that in the near future, we're just working with the expansion of contracts and the supply chain issues with additional vehicles. That's what have prevented us to to expand sooner.

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Can you tell me how the relationship with carshare works?

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Yeah, they're actually contracted by us. So they provide the cars. And one thing that why we decided to go with carshare, instead of just like heading getting vans, was really to get this flexibility. So we could expand faster. And we also could let other people benefit from the vehicle when they are when they're idle. So during, let's say, 8am to 5pm, that the vehicle will just be parked, anyone can just rent a vehicle use that as long as they return the vehicle before the time that employees are leaving. So that was kind of the basically rationale before behind getting a carshare instead of just vans.

11:32

And so what will be a metric for success for vanpool.

11:36

I think we have many metrics to add to account for the success. And I think the big benefit is really reducing congestion. So usually, we're talking about replacing five cars by one van, five to seven cars, those people usually they drive alone. So before there was no like carpooling or anything like that. So we have impact on congestion on greenhouse gas emissions, we also calculate that based on the actual vehicle they were driving before, and the vehicles that are driving now. And it's really about also changing behavior. So people feeling more confident that, you know, like, they can share the trips, they're having a lower impact, and they're spending way less than if they were driving their own car. So we provide the benefit for the employees in terms of cost, sustainability and congestion and also to the employer, because they have more reliability, they're all coming together. And

they also have to offer just one parking space, for example, instead of five or six, sometimes seven different ones.

12:41

And I imagine if you were to scale this upwards and outwards, I should say, you know, data would play a big part in it, knowing where the centers are where people are, you know, using single single occupant vehicles to get to and from work. Are you able to access that data? Are you in the process of gathering it?

13:02

Yeah, definitely. So we are doing this surveys with major employers to understand where the employees are located. So we can pull them. So there are two factors that make them pool a little bit challenging depending, especially if you're talking about shift to workers, is really about what time they start and the end the work because it has to be at the same time to make it work. And also if they live in the same region, or if some people can be picked up on the way. So that also it has to be analyzed. So what we do is we ask the employers to join and the employers, they deploy the surveys, to the employees to really understand the potential for example, once we have that data, we see the potential so we can farm for example, 10 vans or five people throughout the region, we know the origin destinations, we know the time of the day the potential, but then it's really up to the employees if they want to sign up or not. So we offer the service and then we kind of do the matching process and that matching process before it was done manually. We are trying to also include technology now. So yeah, add the company that will actually do that for us. So they will do all the matching. So as long as the employees they do all the registration, they will know where they are how the matching work, and they will pop up blessings automatically to the employees. So this matching process is being able to monetize as well to make it more meaningful and will also allow the users to the customers to see where their vehicles are so they can track in real time so they know exactly when they have to be outside because vanpool is coming. I think that's another big benefit especially if you're talking about Vancouver and the rainy season so nobody needs to be outside in the rain waiting for the van pool to arrive.

14:50

Right. And this kind of relates to the the on demand service that you're looking at. I think a lot of people when they think of transit, they they adapt their their lives to fit transit schedules. And, and that may be why in some cases, things like, you know, on demand ride hailing services are kind of poaching some potential transit riders. But this is interesting, but how does the on demand service that you're looking at work.

15:17

So we have deployed one pilot project with on demand transit on Bowen

Island 2080. So we operated that for two months. And the idea was really to understand how that work and appetite would work and also how that could be served as a planning tool for us, especially when in areas we want to address coverage. So on demand works best for low demand areas, right? When we have like, a lot of people at the same time, take a bus, it's where fixed route is really the ideal solution. But for those places where we have a large area and fewer people taking transit, then it's when on demand makes sense. So that's why we deployed on Bowen. So we have like this closed environment, we could test it out, we didn't for that pilot, we didn't remove the fixed route. So we deploy that on on top of the fixed route. And we run that for two months during the summer time, which is kind of peak also, many people go there like the travel route is a very touristic place. And the result was very positive. So we received very positive reaction, the app was highly rated. And we got people like we really saw an uptake in transit ridership during that period as well. The big challenge for us is really about the cost. So the cost is still higher than fixed route. And that's what prevented us to deploy our other on demand services across the region. But in since we have the point that we have been tracking and monitoring all the deployments and see what the technology has been involved in how we can put to use this service or this, this kind of solution in other areas of Metro Vancouver. But right now we don't have any any pilot in place, or On Demand transit.

17:08

Maybe you can walk me through to like from the perspective of a rider so I you know, I gotta get to work. I step outside, I pull up my phone, I guess and how do I how do I use this on demand service?

17:19

Yeah, you download the app, and then you have the app, you have to select your origin destination, if the ride is for right now, usually on demand rides are the most efficient. Some services, they only provide that, for that pilot, we allowed people to book up until 14 days in advance. So they could book for the next two weeks any day set the time. And they would receive notification when they have around half an hour for the ride to take place. And from that time on, they could actually track the bus. Do you know how far the bus are, like where exactly the bus is and how far it is from you. So you could better prepared and you should be on the pickup location by the time you're assigned. And then if you're there, we'll just get into the bus, the driver will know that because you you just entered the bus and will just drive to your destination. So very similar as once you put the destination, it's really works like ride hailing. But instead of having a car with just a driver, you're going to receive a bus with many people inside. And we also have going to receive an eta of when you're going to arrive. So you can also be aware of how much time you take usually is a little bit longer than a straight up a direct, ride but the pooling piece is really interesting.

18:38

Right and so I imagine that you have some system where you take in all the requests and could come up with a route based on what which requests are coming in and from where and for what time.

18:51

Exactly. And that's all done through the technology. So the the technology right now they do all the routing, they create all the routes in the most efficient way. So the driver, for example, know the order, they have to stop and who will be be dropped off in certain points. So it's really following the list.

19:10

And I can see a future where if you were to expand this program, you could put in automatic, regular requests, like every, every Monday at five o'clock or around five o'clock, I need to go because you know, if I'm going to work, or if I have the same kind of shift, or, you know, this time every week, you know, I gotta get to the grocery store, that kind of thing.

19:31

Exactly. And yeah, you can set up recurring rides. And the one thing that for us was a little bit challenging was the cancellation. So we have since it's really easy to book and payment only happens after once you board the bus. So that was a big challenge for us that I imagined it should be addressed once we go to another deployment. It's really how we prevent people to cancel last minute because that impacts the entire routing of the system. But right now, as I mentioned, as technology evolves, we have more ways of knowing that in real time and also messaging people, or even charging them when they finally get the bus.

20:12

I find this particularly fascinating because the first episode of this special series that we do called The Future Fix, I was talking to someone from Ingersoll, Ontario, who was doing something similar, but that that municipality partnered with Uber. And you know, some, some of the concerns were like, Okay, well, this works, because Ingersoll is a small town, like small population wise, but people are spread out. And so they, they wanted to try out this sort of door to door service on demand. But here, it sort of seems to be taking that idea, but keeping it within the umbrella of the public transportation service.

20:52

Exactly. And the main idea behind that was really, the main purpose of the pilot project was to learn. So we want to learn as much as we can. So the operational piece is really important as well. So we know for example, all the challenges the drivers have. So we were able to collect all the feedback from both riders and the drivers. So we have

like focal groups with drivers, we have interviews with them to really understand how that how the experience was, because we are asking them to do much more than before, and they have to have a tablet they have to look at, they have to follow a route. The route is different every time. And interesting enough, they were very excited, actually, to drive. And to kind of try something new. But we also know that's not what we expect from all the drivers. Right. So I think we have to have the right profile as well. And they have to feel comfortable doing that.

20:53

I'd just like to ask you next. Obviously, there's some things you can't talk about that are in the works. But like, is there anything you can kind of preview that you're you're looking at or in talks about? That might be on the horizon?

22:01

Yeah, we actually have many pilots coming. Some of them, we cannot disclose that. But we are working with AI technology with illuminated signage with the Shaw mobility, as I mentioned, with mobility as a service, something that's even bigger, and next phase should be directly to consumer. And we also have right now an open call open until September 30th. Where we are accepting any projects that's related with decarbonisation. So that's definitely something that's priority for TransLink. And then you can definitely hope that we will, we'll be deploying pilots related to decarbonisation next year.

22:43

I'm a bit of a transit fan. And so I tried to follow these things, across Canada and even even over the world. And I just, it feels like you all are taking some pretty big swings. I mean, yes, at limited scales, but like pretty, pretty radical ideas. You know, how did this come about? How do you have the latitude to, to explore these things?

23:06

Yeah, that's actually I mentioned before to TransLink Tomorrow is really the mandate to really try out all this new technology. So like the the mobility ecosystem is changing really fast with all these trends of shared mobility, autonomous driving connectivity, electrification, they're all changing the landscape. So in response to that, TransLink create what we call the TransLink tomorrow, which is this strategy to really try out all these new technologies, all these new concepts, of course, in small scale, so we can learn with that we can understand what makes sense should become programs, and what probably technology is not there yet it should be be put on hold. So we have all this pipeline of initiatives to really test all this, this new things that are coming. And we also recognize that the private sector moves really fast, much faster than the public sector. So partner up with the private sector to leverage, you know, the speed in terms of innovation, and also to make sure that our customers have

access to the latest trends, and they also have access to a better service through this technology is really important for the organization.

24:15

And from your experience. You know, do you do have recommendations for other Canadian municipalities? I mean, a lot of Canadian municipalities are dealing with similar challenges of congestion, trying to – especially after COVID – trying to maintain their ridership, or even increase it. You know, if things go well, you know, to take cars off the road and tackle congestion, to address sort of ideas of equity and that everyone can have a safe, reliable, affordable ride to where they need to go.

24:48

Yeah, that's a very interesting question. And it's hard to have like a one advice, but I think really testing out in a smaller scale so you don't waste resources and we also have the speed of actually learning from experience, it's really important. So we know that there's a lot of research, there's a lot going on, it's sometimes really hard to keep up. But really focusing on a few initiatives that can make the difference and have a potential to really change and even become like a big things like mobility as a service on demand transit, are these new, new ways of doing mobility. I think it's really interesting to test it out. Even small scale learn with that, and then they can be good decision instead of trying to take make all these big decisions without having a good understanding of what that requires in all the technology gaps that we currently have.

25:42

All right. Well, Camille, as I said, as a transit nerd, I find this so it was really fun conversation. And thank you so much for taking the time to speak with me. Yeah, thank you. Thank you, that's a pleasure.

25:59

Obviously, a lot more goes into what I'm calling experiments than just throwing things at the wall to see what sticks. research informs what to test, and the tests themselves provide the basis of new research. It may be a long time before a pilot project provides enough data, and garners enough faith and political will to be scaled upwards and outwards. But any good scientist knows, you won't find answers if you don't ask the right questions. In a world of constantly changing technology, and evolving transportation needs, the freedom to experiment and mobility is the fix. Thank you for listening to the Future Fix: solutions for communities across Canada. We are a partnership between Spacing magazine and Evergreen for the Community Solutions Network, a program of Future Cities Canada. As the program lead Evergreen is working with Open North and partners to help communities of all sizes across Canada navigate the Smart Cities landscape. The Community Solutions Network is supported with funding

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