**Anything But Footy:**

School Streets: you may have heard about them, but what exactly are they and how do they affect the health and wellbeing of our young people? Thanks to research commissioned by the London Legacy Development Corporation and the Shift Innovation Agency based at Queen Elizabeth Olympic Park, we now know that students at Mossbourne Riverside Academy are benefiting from improved air quality.

**Rose Carter, Aeternum Innovations:**

After the traffic count had subsided, the air pollution stayed in the air for an additional six hours. Well, they were breathing in everything that the car was leaving behind, all the emissions. The brake dust, the tire dust.

**Anything But Footy:**

That's Rose Carter whose company led the research. This is the podcast from Queen Elizabeth Olympic Park. School Streets transform roads outside schools so that pedestrians and cyclists are prioritised at school start and finish times. The scheme tackles congestion and improves air quality, making it easier and safer to walk, cycle or scoot to school.

**Abdul Rahim, Chief Innovation Officer, Shift:**

I'm Abdul Rahim. I'm the Chief Innovation Officer for Shift. So Shift is based at Queen Elizabeth Olympic Park and it allows entrepreneurs and innovators and community organisations to carry out tests on the park and to see if the technology can then be used in real life on a bigger scale.

**Anything But Footy:**

And tell us specifically then about the work that you've been doing with Mossbourne Academy.

**Abdul Rahim:**

So, with Mossbourne Academy, the purpose of the tests was to see if pollution is increased or reduced during certain times, especially around school drop off times, and their sensors were used to measure very, very specific particles that are in the air and to see if that was happening on a normal basis or was it because of school drop off and pickup times.

**Anything But Footy:**

And what were some of the results then that you were able to come up with?

**Abdul Rahim:**

So the results showed that in the morning specifically, there was a spike in certain kinds of pollutants, and when there were interventions introduced, so the tests ran during a period where there were no interventions. And then after the interventions, and the test showed a significant drop-off of specific particles that showed that actually interventions did make a difference.

**Anything But Footy:**

In general terms, how important is this work in terms of the agenda that we have now around climate change and obviously our young people and keeping them as safe and healthy as we possibly can?

**Abdul Rahim:**

And not only in terms of climate change because it can reduce pollutants, and that helps with climate change. But as you mentioned with the health of our population and also the children specifically as there's a lot of evidence as to how much children suffer at a young age where there's heavy traffic and heavy pollution, and that can be a life limiting situation.

**Anything But Footy:**

Do you think there's lessons to be learned for other schools, other areas from the work that you've done?

**Abdul Rahim:**

Certainly. I think with this kind of data, obviously you need a broader research around this, but a lot of schools can and local populations can learn how to help reduce pollutants at specific times. As we said, especially something like dropping kids off and picking them up. So if that can work across, for example, the whole of London as an example, then that would have a significant impact on the health and wellbeing of our children.

**Anything But Footy:**

And how neat is it that you as a company, an organization based at Queen Elizabeth Olympic Park is able to help your local communities in this way?

**Abdul Rahim:**

I think it's very, very important because around our park we have a population approaching 1.2 million. So it's a significant amount of people around here and it's very, very important as we are positioned as an innovation district and we want to carry out inclusive innovation, which means taking account of the population around us and coming up with any new ways and technologies to support that. So it's very, very important.

**Anything But Footy:**

And a lot of people when they talk about legacy from the Olympic and the Paralympic games of 2012 will think about whether it's the Aquatics Centre or the Velodrome. But how important has the legacy been in terms of building communities, both a school community here and a business community as well?

**Abdul Rahim:**

I think it's very important, and this is one of the things because Queen Elizabeth Olympic Park is so much associated with the success of London 2012, but there are over 400 businesses here. There are schools as you mentioned, and it's a whole ecosystem of businesses, community organizations and people working. And very soon we're going to have five universities on the park, 10 to 12,000 students coming in as well. So that is an amazing ecosystem in a very small geographical area.

**Anything But Footy:**

And people will often think, won't they, about how big cities might be a place where pollution is prevalent, but in this new neighbourhood to the east of London with these new communities, clean air is at the front and at the center of what you're doing.

**Abdul Rahim:**

Absolutely. And the Olympic legacy has created that opportunity where we've been able to almost start with a blank piece of paper and immediately say that we want net-zero. We want solutions that will help that kind of situation and be a leader in London, if you like, if not nationally. In terms of these areas.

**Anything But Footy:**

And net-zero, you mentioned it there, is that the target? What is the future?

**Abdul Rahim:**

That is the target. We're working very hard to make the whole park net-zero, which means actually there's a differentiation between net-zero and carbon reduction. Carbon reduction is after the event. So you produce carbon and you come up with solutions to reduce that. Net-zero is actually producing less carbon or zero carbon in the activities we have, whether that's construction or whether it's visiting sports arenas or coming to shop. The residents of the park, if I may call them, that are working very hard with us in terms of making the whole park net-zero.

**Anything But Footy:**

Abdul Rahim, Chief Innovation officer at Shift, who were behind this initiative. Shift was formed in 2022 by a number of leading organisations based at Queen Elizabeth Olympic Park. So far it has enabled 20 trials in East London working at the grassroots of innovation as well as building connections and sparking collaboration. Shortly, we'll hear from Will Norman, London's walking and cycling commissioner about the wider impact of School Streets.

**Will Norman, London's Walking and Cycling Commissioner:**

I would encourage everybody to have a look at the data that's been put out and the work that's been done in the school and by the park. Have a look at it, come and see it and try cycling around the park.

**Anything But Footy:**

But first let's get more detail on the research, how it was carried out, and some of these specific findings from the company who were commissioned by shift to undertake the project, following a similar trial at the Bobby Moore Academy in the run-up to COP 26.

**Rose Carter:**

My name is Rose Carter, I'm one of the founders here at Aeternum Innovations. And we started this company because we were very excited about air quality. So Queen Elizabeth Olympic Park is so beautiful. I mean it has so many different use cases and it brings communities together from different backgrounds. So you have people living there, working there, commuting there, visitors going out at night. In today's world, especially after Covid where we are particularly attentive to the air, particularly attentive to not catching something, it becomes so important to know what our air quality is. For every minute we take 12 breaths, that's seven litres of air. So in one day we take 11,000 liters of air enough to fill a swimming pool. So air is so fundamental to our health.

**Anything But Footy:**

So how exactly do we measure air quality? I mean, what are we looking at?

**Rose Carter:**

Thinking about the sensors, they have in an optical particle counter that measures particulate matter. And particulate matter ranges from 0.3 microns to 12.4 microns. So just to put that in a more visual reality, if you take one strand of hair, the cross section of that is 70 microns. So when you're thinking about what you're breathing in each day or every minute, you are breathing in all these particulates. And so what we do is we measure the sizes of particulates. What we were doing, we were looking at particulates 2.5 and less and particulates 10 and less because PM 2.5 is basically the brake dust, the tire dust. And PM 2.5 is everything that goes into your lungs and then find its way into your bloodstream. It's that small. Particulate 10 is PM 10 microns is a little bit bigger. It's the equivalent of it could be pollen or it could be salt in the air.

And then what we also measure are the gases. So nitrogen dioxide is a direct emissions gas from cause and there's a direct relationship there. And nitrogen dioxide is also harmful to the health. These sensors will measure particulate matters, the gases, and then also taking into account environmental factors, because as you're breathing this particulate matter, we need to know what the temperature, what the pressure, what the humidity is, because that plays a part also in where that particular matter is going or is it staying in the air and where is it migrating to? The sensor basically takes a look at your environment.

**Anything But Footy:**

We know you've been involved in a few projects at Queen Elizabeth Olympic Park. Tell us how they've been using your sensors.

**Rose Carter:**

We put five sensors at the Mossbourne Riverside Academy. We put four sensors in the front of the school where they had this school street intervention and we put one sensor in the back and you can see in the back that there is a canal. And with air quality and air pollution, it's very dynamic. So it's a factor of emitting source plus the environment. So different environments will create particulates to stay in place or if the wind will dissipate them. And so there won't be much effect on us as we walk or as on the children as they're sitting in school. So the measurements were made many times during the hour. The sensors were showing different types of behavior in the colder months versus the warmer months. In the colder months, because we were seeing an increase of people using heating, the particulates were quite high.

During drop off they would peak and then right after the cars left, they would immediately drop. But then in the afternoon they would start to rise after pick up and they would continue to rise and they would stay at an elevated part. And that was quite interesting because it showed that the environmental factors of heating in the winter or folks using their cars more played a big part in keeping the pollution in the air. In the warmer months, we had less of a peak with the nitrogen dioxide and the particulates where we saw wind, we saw less of the particulates staying in the air. So in this case you can surmise that people were walking more, that they were using other ways of getting to their destinations.

**Anything But Footy:**

So you thought there were about seasonal variations, but what were some of the other findings you found at Mossbourne Academy?

**Rose Carter:**

You see on the morning drop off the impact of traffic PM 2.5 would peak quite high, but then as soon as the cars left, there would be an immediate drop-off, and that would be even more with nitrogen dioxide. You see the difference between before school street and then after school street, you're seeing it down towards 17 micron grams per meter cube. So you're seeing such a big delta showing the importance of the school street intervention. And then as we look at the type of particulates, you're seeing here a spike before the school street intervention, but then you start to see a leveling off. So I think that was quite interesting for us to see that. And with nitrogen dioxide, there is a direct correlation with cars. And so before school street intervention, nitrogen dioxide was extremely high. After school street intervention, it dropped immediately. And in this case it stays less in the environment than the particulate matters does. So we found a lot of very interesting correlations that we thought confirmed that school street interventions really made an impact, a positive impact for children at schools.

**Anything But Footy:**

Rose Carter from Aeternum. The monitoring Rose was talking about their began in July 2022 before the school street was introduced. It continued until July 2023. The school street was implemented the previous February. Queen Elizabeth Olympic Park is spread across 560 acres of stunning parklands, the home to beautiful landscape gardens, historic waterways, famous sporting venues, and a vibrant arts and events program. At the heart of the New East London, the park is still transforming, providing homes, jobs, and an unrivaled education and cultural district. For the man in charge of getting Londoners out of their cars, the school street at Mossbourne Riverside Academy is just another example of how Queen Elizabeth Olympic Park is leading the way.

**Will Norman:**

Hi, my name's Will Norman. I'm London's walking and cycling commissioner. My job pretty much does what it says on the tin. It's how do we get more people walking, more people's cycling across London. And this is all part of the mayor's ambition to create a greener, fairer London for everybody.

**Anything But Footy:**

And how important then is what is happening at Queen Elizabeth Olympic Park in managing and delivering that expectation?

**Will Norman:**

Well, I think what's happening at Queen Elizabeth Olympic Park is really important because a lot of my job is about retrofitting, walking and cycling infrastructure into existing parts of London, old medieval bits of the city. But the park is a new part of London, and it's being built for the 21st and 22nd centuries for people to live and enjoy. And we all know that living in a place that is got clean air greenery around you, that's safe for your kids to walk cycle, scoot to school is absolutely paramount in people's thinking.

**Anything But Footy:**

And you mentioned children and school there and we've been hearing in this podcast about a specific example, which is the Mossbourne Riverside Academy. Tell us why School Streets are so important in your work then.

**Will Norman:**

Well, School Streets is such a brilliantly simple idea. The idea is, as I'm sure you know, close off the road to motor vehicles at drop off time and pick up time. And lo and behold, you get fewer motor vehicles, it becomes safer for kids to walk, cycle and scoot. But as this evidence shows, it also helps clean up London's air, and the air, particularly around the school. What's great about this example, it not only shows the drop in pollution at drop off time and pickup time, but what's brilliant is that it shows how that's sustained throughout the whole day. Now this scheme is in those kids are breathing in cleaner air throughout their whole time at school, and that's good for their health and wellbeing. In addition to the air quality benefits that School Streets bring for kids, what I think is really exciting and what is a real game changer for London is that if the roads are safer around schools, people are more able to walk, cycle, scoot to school.

Now that means kids are active. And we all know that if kids are active, they do better. They do better in terms of their health, their wellbeing, their educational attainment. In fact, everything in terms of their future outcomes is better if kids are physically active. So these streets help design physical activity into their lives. And what the most important piece of that is, is all the science shows that those behaviors that you pick up early on in life when you're at school, when you're in primary school, those are the behaviors that stick. There's that stickiness. The people who walk cycle and are active early in life are far more likely to be active for the rest of their lives. And that means in the future as their park continues to grow and welcome more people and more people live there and grow up there, that is shaping a London that is even greener, even cleaner, even healthier, and ultimately more successful for everybody.

**Anything But Footy:**

So are we changing habits here?

**Will Norman:**

That's exactly what we are doing. By changing the environment, by changing the street to make it safer, to clean up the air, you are changing habits, you're enabling people to make better decisions, cleaner, healthier, environmentally friendly decisions. And you can see it outside that school. I invite anybody who's in the park to wander past Mossbourne Academy first thing in the morning or anytime of day. You'll see lots of kids cycling to school and coming away from school even during the day. What you'll see as you go past a bike stands full of kids' bikes. Now that's what I'd like to see in schools across the whole city. And this initiative, turning Hackney and the Park, working together with the school to create that school street is a genuine game changer.

**Anything But Footy:**

And I guess for you, exciting as well that with Queen Elizabeth Olympic Park, you had this blank piece of paper so you could design it from scratch to make it accessible with cycle paths and with safe routes to walk to school.

**Will Norman:**

That's exactly right. And what's really exciting about Queen Elizabeth Olympic Park at the moment is that you are seeing not just the landscaping mature with all the trees and grass and everything else looking stunning as it has been this summer, and we'll continue to do in the autumn. What we're also seeing is the infrastructure mature. So you're seeing the park building in the bike lanes, changing the roads to make them safer and doing initiatives like this to allow kids to get to school in a clean, sustainable way.

**Anything But Footy:**

And what I love about coming to Queen Elizabeth Olympic Park is even though you've got big venues there, you've got lots of activities there and you're moving lots of people in and out of the park. It's a quiet, calming environment because it's not clogged with traffic.

**Will Norman:**

That is exactly right. And the changes that the park are making now and are continuing to invest in will just make that even better into the future. And I think that's what everybody wants for that area now and for the next 200 years.

**Anything But Footy:**

That's London's walking and cycling commissioner, Will Norman. This is the podcast from Queen Elizabeth Olympic Park. For more information, visit our website. Sign up to our e-newsletter and follow us on social media.