Arthur Jones (00:06):
Transportation is still the highest source of greenhouse gas emissions in the US and one of the greatest carbon
contributors globally. Governments and local authorities are continually researching ways to drive positive
change through legislation and policy, and a large part of this will come down to urban mobility and
transportation planning. To make the right decisions in these fields, we need the right data and measurement
tools. Case in point, the Transportation Climate Impact Index by Street Light Data. Their report covers how
metros in the US rank across eight key factors and reveals the major mobility trends impacting climate.
(00:45):
In this episode, we discuss urban mobility and its role in climate change. We explore how to build a climate
resilient transportation system, one that offers social, environmental, and commercial value. Our celebrated
guests explain why urban mobility is one of the most critical areas of the climate response, and more
importantly, how we can better design our cities for greener futures with cleaner air and less traffic. Today
we're speaking to Dr. Laura Herschel, CEO of Street Light Data, and Vice President of Transportation Software
Jacobs, and Jenny Jones, Head of Transport Planning for Europe at Jacobs.
(01:22):
Before we get started on the main topic, could you both please share some information about your
backgrounds and how you're working to drive innovation in the transportation industry? Laura, if I could start
with you, that'd be great. I know you're the founder of Streetlight Data and I know there's a fascinating origin
story behind it.

Dr. Laura Schewel (01:40):
Sure. I was in grad school in 2009. I started a PhD at UC Berkeley. I wanted to focus on the topic of emissions,
climate emissions from transportation. As I had been studying that, and in previous jobs, a real lack of data
was a consistent problem. We would get a question like, "Oh, well if this characteristic of driving change, if
people drove half as much to the store as they do today, what would the impact be on emissions?" And there
would be no ground truth data. And I realized that we were making billions of decisions in the US, at least,
based on a survey that was done every five years for maybe 100,000 families. And that's an insane situation to
be in for something that important. That was the same time that iPhones and Androids had really started to
become popular and were capable of back grounding, which means running more than one application
simultaneously. So, I thought, "Hey, everybody's actually carrying around something that could measure
transportation. Maybe there's something here."
(02:40):
That was roughly the origin story. It very much started as a academic project. And as it evolved, I was in Silicon

Jenny Jones (05:11):
I think it's really important. I think in higher income countries across Europe and such as the US, transport is a
sector that's responsible for over a quarter of greenhouse gas emissions, for example. And it contributes to
lots of negative impacts such as air pollution, noise pollution, habitat fragmentation, all of which are factors
behind some of the current climate emergency. And cities, where a lot of our people obviously live, therefore
can't require a significant proportion of the global energy consumption and the emissions. So a focus on
delivering sustainable urban mobility, I think, is really important to help us to reduce the emissions to
pollution, the congestion to manage that and contribute to the environmental goals. (05:50):
But I also think if you plan urban areas really well and they're well designed, you can promote efficient land
use, so reducing urban sprawl, minimizing the need for really extensive transport networks which support
sustainable development. And if you do all of that really well, you can actually reduce some of the need to
travel at all. And efficient transport systems, incorporating all of those different modes and giving people that
choice really enhance economic productivity by connecting people to the jobs and the education, the markets
that they need, which then obviously contributes significantly to the economic resilience and competitiveness
of the cities. (06:32):
Clearly in a lot of cases in planning, we're not starting from scratch. We're working with what we've got and
what other generations have left us with. But in developing those urban areas, I think it's really important that
efficient land use is considered to get those sustainable outcomes. In the UK, we've got new government
proposals to look at a program of new towns.ᑘ१鐠�

Dr. Laura Schewel (09:58):
Or vehicle kilometers traveled for our global audience.

Arthur Jones (10:00):
I think that that links to the next question, which is I'd love you to share a bit more information on that
Transportation Climate Impacts Index Report that your team has just published, Laura. I think that some of the
things you've mentioned kind of deals with some of those points, but if you could elaborate some of the
biggest findings, especially with your sustainability lens on that, that would be amazing.

Dr. Laura Schewel (10:20):
Sure. It's a great report that really exemplifies some of the trends Jenny and I have been talking about. What
we did is we broke the United States down into metropolitan areas. So for the US, we throw around the term
cities. Often the city is just a small part of what you mean when you say Chicago or New York or something like
that. We have cities that are surrounded by counties and they create this area that is one economic life unit. So
we analyze these metropolitan statistical areas and we analyze them on a bunch of

(12:23):
We also see some really interesting trends where in the pandemic we saw biking and walking shoot up for
recreational and other purposes. Driving plummeted. In most of the US, driving is back to where it was before
the pandemic, which is disappointing. I really hoped we could have locked in some of those VMT savings with
behavior change. But we see that driving is happening as much as before, but at different times of day and in
different parts of the metro area. So we've replaced maybe commuting, which has gone down a lot, with other
forms of driving, which is something we really need to work on and will change how we think about smart
planning as planners. (13:02):
But what we also see is biking has stayed high, which is great. It's very good for health. It's very good for the
community. But it also means that maybe biking is not displacing driving; it's doing something else. It's an
important challenge for us as planners because we were like, "Oh, we build more bike lanes, more people will
bike, it'll be more sustainable." It's certainly healthier, but if it's not displacing driving, maybe it � �
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VMT can drop. Tons of people are now working from home. Everybody got used to a new way of life." And we
didn't do work to lock in some of those benefits, and that is alarming to me because it was an extraordinary
opportunity.

Arthur Jones (15:14):
Jenny, how do these lessons from these US metros in this report, how does it compare with the challenges and
the opportunities with future urban mobility in the kind of European cities?

Jenny Jones (15:26):
It's interesting actually, because that density point I think is really important, and a challenge perhaps that's
shared between the US and UK in comparison to Europe is the low end density nature of some of the urban
environments. You've got the urban sprawls, as Laura mentioned, in the US, and the focus on kind of mid or
low rise housing in a lot of cities in the UK, which makes the viability of some high-quality public transport
networks a real challenge. And they're often a key part to the solution to providing people with access to that
more sustainable, longer distance journey, which gets them to their job in a way that is efficient. There's been
some research carried out by Center for Cities in the UK, which says that the UK's big cities can't reach
European levels of public transport accessibility just by expanding their public transport systems; they need to
increase housing density too to allow people to live closer to the public transport stops and to make high
frequency services more commercially viable. So that brings together kind transport planning, data, and urban
planning. We'd have to bring all of those elements together to really help to solve some of those future
challenges.
(16:34):
One of the other areas I was just going to touch upon, particularly around reducing the car VKMs and
supporting modal shift to the more sustainable modes, obviously that's a critical challenge and it is really
hard, and we often build things and they don't come. But I think one of the things that we have learned,
particularly in the UK and possibly some of the European cities, is to live with that very constrained level of
space that's available in some of the historic centers. And that might be different for some of the US cities, I
guess. But with space at a real premium, congestion levels very high, air quality often low, that resulting battle
for the road space for all modes and the need to transition away from the private car to make space for those
modes is the big challenge.
(17:18):
But that has led to some really important development of skills in analyzing the movement of all modes, but
also the purpose. It's really important that we get behind why people are doing things, and that helps us to
develop the strategies and do that front end traffic engineering design to really optimize the sharing of that

limited space for a variety of users and get the most out the space that is available. So leading to industry
leading, walking, cycling; PT, public transport type schemes which are safe and also attractive. (17:47):
I think one thing that's also come to the fore is that the skills in the engagement of a full breadth of

have fantastic transit. It's free. I can walk to 8 billion things, hospitals, grocery, whatever, schools. Our
neighborhood is becoming so desirable that we've priced out huge portions of the population for whom those
amenities in walking and transitable places would be an extraordinary economic lift. And that, I think, is the
new story of the American planning conundrum, is that all of these assumptions that all of our models are
based on have flipped in the last 10 years, because especially housing, but all the other uses and the price of
those uses are really what drives transportation behavior.
Arthur Jones (21:14

clients. But we have the opportunity because we are equipped with big data from things like Street Light, but
also the global data of our reach and our vision and understanding on what's happening on the globe, to try to
persuade them otherwise. And I think that is incumbent on us as practitioners who have a mission of climate,
which Jacobs has, of being data-driven, which Jacobs has, and of providing advisory services. This is the most
important advice we could give, and I think it's an amazing opportunity to push ourselves to give it more often,
even though it might be a

Arthur Jones (31:25):
Thank you both for an amazing interview and discussion. I found that very interesting. I think that's just
fascinating to hear how transportation has become such an important catalyst socially and economically and
how data plays a role in all of that. So, thank you both for joining me today and for all your insights. I really
appreciate it.