

## **Interview Schipper Mobility**

Earth and sky.

Schipper: It is a gradual shift towards people and goods needing to go less distance in order to lead to us leading, you know, enriched lives.

Intro speaker: This is Earthsky's Clear Voices for Science. And that was transportation expert Lee Schipper. Now a visiting scholar at Berkley, Schipper is a former director of research for Embarq, the World Resources Institute Centre for Sustainable Transport. Schippers spoke to Earthsky's Lindsay Patterson about the way we humans move around now and how that might change as the 21st century progresses.

Interviewer: So in this century ahead, as fuel prices are rising and emissions increase: do you think our species will become more or less mobile?

Schipper: I think we will move less; we will still have the same amounts of access to food, friends, jobs, shopping, free time, parks and stuff like that. The number of miles we move is really a bad measure of the quality of our lives. And so maybe the word 'mobility' has to be replaced by the word 'access'.

Interviewer: What do you mean by access?

Schipper: Access means connecting to places that have food, places that have work, places that have shopping, places where my friends live, places where there is a park, green space. Right now, because we live in a relatively sparsely populated world -in the United States at least- those... Not only are those locations farther away, but by definition in any given radius around where I am standing there are fewer locations. So we need to be a little more bunched up and we can have lots of open space at the same time.

Interviewer: And what would motivate this kind of change?

Schipper: If time and wear and tear in fuel and the cost of driving really reflected what they really are, people will decide it is better to shop nearby.

Interviewer: So we have heard how you think human mobility should change in the decades ahead. What do you think is the best way for people to move around?

Schipper: You know, there isn't a best way. It is a question of more or less balance of how we move. There is a role for individual private transportation. There is a much stronger... But too much of it and everybody slows down and stops.

There is a role for large-scale collective transportation, rapid transit in articulated - even double articulated- buses or metros. There is a role for, a very important role for cycling, for non-motorised transport. And all of that has to be supported by land use. My colleague Alain Bertaud from the World Bank –retired-, has done a lot of this work... Alain Bertaud has shown you need a certain density of people to make metros work. You need a certain size of population in a city to make, you know, bus rapid transit work. The thing we understand is: you can't have a very expensive transit system when you don't have the right land use, the right densities of population and the right prices, so that the expensive system becomes the fastest and most desirable one, compared to the other systems. Once you build them, you then have to work around them and try to get real estate and commercial development along them in the main... Over the main stops. And that has only been done successfully in a few places. So you can't just think about “what is the best transportation system?” It is “what is the combination of transport and land uses that gives the most access for the least money and the least environmental damage?”

Interviewer: As people become more aware of environmental issues, greener vehicles like hybrids and hydrogen cars are becoming more popular. Do you think that this is a step in the right direction?

Schipper: Yes. Remember we have to separate... Distinguish between how environmentally friendly a given vehicle is -and that applies to buses, cars, motorcycles- and which vehicle we choose to move in. It is both how much you move and how you move -that is what mode- and how cleanly the mode is, and how efficiently that mode is. All of those together determine an overall environmental

impact. And the problem that we often see is that people focus only on the technology and the fuel for a given mode and not whether they should be taking another mode. Yes, we should be driving hybrid cars, but we should be using other modes besides cars.

Interviewer: Do you think these modes of transportation and cleaner fuels can help reduce pollution?

Schipper: Pollution is a problem in two ways. One: smog, which is a photochemical substance in the atmosphere, is bad for you. But most of Asia and much of Latin America has a bigger problem, which is the direct ingestion of particles -nitrogen oxide and carbon monoxide- from the vehicles in the streets where they are standing or riding. And that has to stop. I personally have gotten sick in some of the greatest cities in the world because my taxi was stuck in traffic or I was on a corner with too many polluting buses or polluting cars. And that has to stop. Because that has a public health cost that is wrecking in the hundreds of thousands of cases of asthma and even pre-mature death.

But right now the most important push is to clean up the diesel used in all urban vehicles. There is some resistance to that, but it is happening. Going... When I was with Embarq we tested very low sulphur diesel -the kind the US now requires- in a dozen buses that were equipped with particle filters. And we got a 95% reduction in the emission of particles. So we really showed you can clean up existing buses by cleaning the fuels and cleaning the exhaust. I think that is the number one public health problem right now. The second thing is that we can not only clean up the gasoline and diesel for ordinarily cars. We can also make sure that we inspect the cars and keep them clean.

Interviewer: So what do we need to have better access and better transportation?

Schipper: What I would say is: the price of moving, the price of fuel should reflect what it really costs society to provide the fuel. What society really risks when we emit greenhouse gas emissions, what it really costs to build a metro or things like that. We need cleaner fuels for mobility. We do not –repeat- we do not need cheap gasoline. We need more efficient vehicles, be they cars or buses, for mobility. But we do not

need cheap vehicles or cheap gasoline. We need a much better attempt to try to integrate transport, land use and urban or metropolitan area development concerns, so that people aren't stuck too far from their jobs, too far from services. We need to figure out perhaps a new model for how we operate collective transport systems. Those are the things: better land use, more realistic pricing of fuels and access at congestion times, better information about possibilities of using collective transport, ride sharing, car sharing. There are all kinds of things that can allow us to live better on fewer cars, fewer miles and above all less fuel and less greenhouse gas emissions. But making them to change will be painful. It is not a free lunch. And I think above all our culture has to stop looking for a free lunch or the promise of a free lunch, which in mobility doesn't exist.

Intro speaker: You have been listening to transportation expert Lee Schippers. Our thanks today to Shell, encouraging dialogue on the energy challenge. To subscribe to this and other free science pod casts, visit the subscribe page at [EarthSky.org](http://EarthSky.org).

I am Joel Block and this is EarthSky's Clear Voices for Science.

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