

[The Bill Walton Show](#)

“America’s Crumbling Highways” with Bob Poole

Bob Poole:

Bill will be talking just directly to you with the exception of the very beginning where he may talk to the camera.

Kenny:

Yeah, okay.

Bill Walton:

Apologies for that. I was waiting for him to ... I thought he was doing something technical.

Bob Poole:

We could have just fun for hours shooting the breeze

Kenny:

Oh, and Bob, is your phone on vibrate or off?

Bob Poole:

Oh, thank you. Sorry, let me turn it off.

Kenny:

Airplane modes are great.

Bob Poole:

Right, right. Okay.

Bill Walton:

Yeah, mine's vibrating, and then the other thing I've got to do is.

Kenny:

Okay.

Bob Poole:

I should have left it upstairs in my briefcase.

Kenny:

This is Bill Walton Show for May 24th.

Bill Walton:

Great.

Kenny:

Alright, Bill.

Bill Walton:

We good to go?

Kenny:

Ready to go?

Bill Walton:

Ready to go, okay.

Kenny:

Whenever you're ready.

Bill Walton:

I am ready. Every time you board a plane, you are putting yourself at the mercy of an inefficient system guided by 1930s radio, 1950s radar surveillance, and paper. Ticker-tape flight tracking. Far from being the envy of the world, the US system for guiding aircraft is a backward analog relic in a digital age. Joining me to figure out how do we go from where we are to where we need to be is Bob Poole, who is the founder of Reason Foundation and is the director of transportation policy, there. He's an MIT trained engineer, advised the Reagan administration, both Bush administrations, Clinton, and also served as advisor to the Trump transportation team on all things transportation. I consider Bob the country's, if not the world's leading expert in solving transportation issues using private-sector solutions. So Bob, it's a pleasure to have you here.

Bob Poole:

Thanks, Bill.

Bill Walton:

I've been reading about you and reading what you write for years, and so it's great to see you here in the flesh.

Bob Poole:

Glad to be here.

Bill Walton:

So Bob, where are we right now with the system? How did we get here and what do we do about it? I know this is a complicated issue, but we get 20 minutes.

Bob Poole:

Very complicated issue. The problem is that we have the Federal Aviation Administration, which is basically a safety regulatory agency, but embedded within it is this would-be high tech service business that's highly technology intensive that's supposed to guide planes through the sky safely, keep them

separated, and so forth. It's a relic because it is captive of the federal budget, it's embedded in a very conservative bureaucracy. It cannot issue revenue bonds to finance large-scale modernization. It has to exist year to year on the glibs and grabs that Congress appropriates. Whenever there's a budget crisis funding could be cut off.

Bill Walton:

It depends on the authorization every year.

Bob Poole:

Every single year.

Bill Walton:

I think we had a sequester in 2013.

Bob Poole:

Yeah, they had a sequester, they've had times when the aviation ticket tax that we pay on our air tickets are suspended and there's no revenue coming in. There's all these bizarre problems that should not be there. The good news is that 60 countries in the last 30 years have taken their equivalent out of their national transportation agency, made self-supporting, free-standing, basically a utility service.

Bill Walton:

New Zealand kicked this off in the '80s.

Bob Poole:

New Zealand was the first one in 1987.

Bill Walton:

1987? Yeah.

Bob Poole:

31 years ago, now, and it's become the global standard, now, and in fact the international civil aviation organization, ICAO, in 2001 said good practice should be organizational separation from air safety regulation and the provision of air traffic services. Most countries have done it. We have not, and the reason is, people who benefit from the status quo in which you don't, people who operate planes don't pay directly for the service. They pay aviation taxes that go into the Federal Treasury.

Bill Walton:

Well, now let's ... basically we pay aviation taxes.

Bob Poole:

We pay, yes.

Bill Walton:

It's in our ticket.

Bob Poole:

That's right. It's on our ticket. In fact the lion's share comes from passenger ticket fees. The business jets are the worst problem, because they pay a tiny fuel tax. They pay about 1% of the total budget for air traffic control, but they use 10-20% depending on which part of the system you're talking about. This is a great deal, and they don't want to give it up.

Bill Walton:

Our current system subsidizes corporate CEOs and their planes?

Bob Poole:

It does, indeed. Whoa, what a revelation, right?

Bill Walton:

That seems like a no-brainer. As a former CEO-

Bob Poole:

But that's the way it's been. The ironic thing is that, when air traffic control started, it was started by airlines as a non-profit corporation that they paid for directly, and it was taken over. Herbert Hoover, during head of the Commerce Department, took it over and said the government should run it.

Bill Walton:

That was our engineering President.

Bob Poole:

Our engineering president, sorry to say. That's right, that's right. He wanted everything ... it was part of the progressive era movement that there was one best way to do things. The government role should be much bigger than envisioned by the founding fathers, so he took all kinds of things into the government, and we're still stuck with that today.

Bill Walton:

So what is the system now? It's part of the FAA, and the solution is to create a new entity that would govern air traffic control.

Bob Poole:

Right. Well, to take out of the FAA. It would still be regulated. The FAA would still be the safety. Today it regulates airlines, airports, issues of pilot license, and so forth.

Bill Walton:

So, it'd be regulated like utilities, perhaps.

Bob Poole:

Yes, yes.

Bill Walton:

So you'd have-

Bob Poole:

Well, no, well actually it would be basically regulated for safety by the FAA.

Bill Walton:

Okay.

Bob Poole:

Air traffic control is inherently a monopoly, so the model that I proposed and that has been adopted and worked well in Canada for the last 22 years, is a non-profit user-governed corporation. We have lots of non-profit utilities in the United States, and if the users are on the board, they have an incentive not to have-

Bill Walton:

Users being the airlines, the general aviation?

Bob Poole:

Being the people who fly, airlines, business jets, everybody who flies planes.

Bill Walton:

Pilot's associations.

Bob Poole:

Pilot's associations, exactly. All of those would have seats on the governing body and their interest is have an efficient system that's not at monopoly prices or anything. So it would be self-regulating, economically, but with ultimately agreed, an appeal process to the DOT Secretary, the Secretary of Transportation in case any user group thought they were being unfairly treated as a minority position on the board of governance.

Bill Walton:

Now, is this the same structure that Canada uses?

Bob Poole:

It's exactly the same structure, yes.

Bill Walton:

New Zealand uses ... I there any other major country that doesn't have it?

Bob Poole:

Well, Canada ... no, Britain does it differently. They have what they call a public-private partnership, in which the government owns 49% airlines and a big pension fund and a few other, and the controllers own various pieces of the 51%. And that has worked okay. It's not the lowest cost, most efficient system, but they are doing good technology modernization in the UK.

Bill Walton:

Now, are there safety issues with the current system that could be addressed by taking over?

Bob Poole:

Well, there's safety issues in the sense that you get the highest safety from having the best technology, the most modern things, and we are lagging so far behind, as you said in the introduction. We don't have things that are standard practice in Canada, like digital communication, digital messaging between controllers and pilots in real time, instead of voice transmissions.

Bill Walton:

We still got the Chuck Yeager system?

Bob Poole:

We still have ... they're talking-

Bill Walton:

You've got the drawing-

Bob Poole:

They're talking on crowded frequencies. People sometimes mishear things, and-

Bill Walton:

So in an age of texting, we're now using voice.

Bob Poole:

Yes, in an age of text, we're still on voice. On analog voice, and we don't have air traffic control, to speak of, over the oceans because there's no place to put radar in the ocean.

Bill Walton:

In other words, you've got to fly close to the places where you have the towers.

Bob Poole:

Well, when you fly across, you have what's called procedural separation.

Bill Walton:

Yeah.

Bob Poole:

They have these huge buffers, like 30 and 60 miles, fore and aft and side by side the flight tracks, because the controllers only know approximately where they are, and this could be much safer and more efficient.

Bill Walton:

They only know approximately?

Bob Poole:

They only know approximately.

Bill Walton:

I mean, with Google Maps, which can tell you what side of the street you're on?

Bob Poole:

Well, but not over the oceans. So what Canada innovated ... Canada came up with a global satellite based system that another about eight or nine of these air traffic corporations around the world have invested in, and the satellite constellation, they have only one or two launches to have 66 satellites in orbit continuously that would provide basically radar-like separation everywhere on Earth, including all of the oceans and the polar regions and the mountains over Tibet where there's no radar.

Bill Walton:

Well you also mention that we've got a zig-zag system, now, even when we're flying over the Continental United States, we've got planes we've got to fly-

Bob Poole:

Those radio beacons, yeah, I mean there are some exceptions. Controllers can, using some technology, do some work arounds and give people direct routes, but they can only do a certain number of those at any given time because it's somewhat labor intensive the way it works. So with a more modern system, we'd have all direct routes, other than driving around huge thunderstorms and this kind of thing. And in fact, flights would be shorter in time, they'd burn less fuel, they'd be more environmentally friendly. But we're not close to having that.

Bill Walton:

Well, and the system we have now, as I understand it 40-50% of flight delays are caused by air traffic in New York.

Bob Poole:

Oh, yes. And that is more an airport problem than it is air traffic. Now, there's things the air traffic system could do to make the landing rate more at each of those congested airports, but there's not ... you really need more runways, and this is a huge political problem. There's some political support been growing in the last decade for adding runway at JFK.

Bill Walton:

People don't want runways in their backyard, yeah.

Bob Poole:

And adding a runway at Newark, but there's no consensus. The FAA has not showed any leadership in doing that.

Bill Walton:

So this idea is not going to solve that problem.

Bob Poole:

No, this is not going to solve that problem. It's going to help at the margins, but it's not going to solve it.

Bill Walton:

Now you talk about something called flight fibra strips, which are pieces of paper.

Bob Poole:

I should have brought one with me. Yeah.

Bill Walton:

For anybody just listening when we're describing, it's about four inches long, it's yellow, and what's on it?

Bob Poole:

Well it's got the flight number and the airline and a few other bits and pieces about the track. When a plane is given clearance to take off, it goes from the controller that controls the actual permission to land, a runner takes that strip to the next controller.

Bill Walton:

They walk it over to them?

Bob Poole:

They walk it over, yeah. And they stack them up on little racks. When Matt Lauer was still on the Today Show-

Bill Walton:

Why do I feel like that's just not safe?

Bob Poole:

Well, this is certainly subject to error. In Canada and in the UK and in several dozen countries they have electronic flight strip. They just hit a button on the computer, and it passes to the next guy's terminal.

Bill Walton:

Sure.

Bob Poole:

We're going to have this starting to be implemented maybe by 2021 in some control towers and facilities. But we're a long ways from that, now.

Bill Walton:

Well, they think actually 2021, you mentioned 2026 might be more realistic, so we've got to wait-

Bob Poole:

Probably to have all the facilities equipped, yes, yes.

Bill Walton:

So we have a system now which we use excise taxes on airline tickets, which passengers pay for, and so we've got basically the system subsidized by commercial airline passengers and people not paying into the system are general aviation plane operators, which would be corporate jets, which would be-

Bob Poole:

Well, they're paying a little bit with the fuel tax.

Bill Walton:

Crop dusters, things like that, people that fly back and forth on ranches and farms in the Midwest and that sort of thing, but they provide only 2% of the revenue. So it's not nothing.

Bob Poole:

It's not nothing, but it's not in proportion to participants. The big offenders are the business jets and turbo props, because they fly at high altitudes, they use all the same services as any jetliner, and yet they pay pittance, instead of something approaching. Now, all over the world, the United States is the only civilized country that does not charge business jets standard weight and distance charges. This is universal practice around the world, and business jets do not suffer. It's a thriving industry worldwide.

Bill Walton:

Yeah, they can afford to pay.

Bob Poole:

They can easily afford to pay.

Bill Walton:

If you can afford a jet you can afford the tax.

Bob Poole:

But the trade association, NBAA, had its claim to fame and membership contributions and its political action committee is that, "We protected you from ruinous user fees for air traffic control."

Bill Walton:

So let's talk about the politics of this.

Bob Poole:

Yes, yes.

Bill Walton:

Because it seems to me there's a compelling case to make this change. One of the things you mentioned that's important, this is not a for-profit entity that needs to be formed. This is more or less like a cooperative.

Bob Poole:

More like a user co-op, yes. Yes.

Bill Walton:

And you've got all the people who have stakes in the system and who's motivation is just to make it better and better. Faster, cheaper, more efficient, that sort of thing.

Bob Poole:

Right.

Bill Walton:

And there's no conflict of interest, here.

Bob Poole:

Yeah, and that model has worked superbly in Canada for 22 years since they started in Canada.

Bill Walton:

And the revenue from this would be paid by the stakeholders in the system. How would that work?

Bob Poole:

That's right. Everyone who flies would pay fees for the services. It would go directly to the company. Modeling as in Canada, now, so every year, they get a certain amount of revenue, they have a budget. If they get in more revenue than they've budgeted for, they have three choices. They can pay down some debt, they can lower the fees for the next year, or they can buy some capital equipment instead of having to go to the capital markets and finance it.

Bill Walton:

Well, you also mentioned that an entity like this can raise money. You can issue bonds.

Bob Poole:

Oh yeah, that's right.

Bill Walton:

One of the problems we've got with the current system with the fluctuations and the appropriations from finance is you can't ... same problem we have in education. There's no ability for R & D or for capital expenditures.

Bob Poole:

Yeah. These guys, big ones, Nav Canada and Air Service Australia and NATS in the UK have investment grade credit ratings.

Bill Walton:

Mm-hmm (affirmative).

Bob Poole:

They're a monopoly provider of a vital public service. What's not to like to a bond buyer, assuming they're well-run.

Bill Walton:

So, we're going to get into whose interests are being served or not served here, but as currently constituted, if you're working in the air traffic control booth, you're a government employee.

Bob Poole:

Yes.

Bill Walton:

You have a government union. And you're in that job forever.

Bob Poole:

Well, civil service.

Bill Walton:

Civil service. You're protected by all the civil service rules.

Bob Poole:

Right.

Bill Walton:

And if you're in that situation, it's like education. There's no incentive to invest in technology to replace people.

Bob Poole:

Well, the interesting thing is, we've had a reform effort going on in fits and starts over the last 20 years.

Bill Walton:

Not that I don't like people, but maybe it's time.

Bob Poole:

But this last round that I was very heavily involved in on two different task forces, one from the business round table, and one from the ENO Center for Transportation that brought stakeholders together and talked.

Bill Walton:

Yeah.

Bob Poole:

The controllers union supported the effort to create a Nav Canada type system. They are so fed up with having inferior, antiquated technology.

Bill Walton:

They don't want to carry the yellow strips, either.

Bob Poole:

No, they don't want to do that. They're embarrassed by it. They go up to Canada, and they sit with the controllers there, "Oh my God." They're on board. It was all the other government unions that saw this as a slippery slope. If we take 30some thousand people, which is not all controllers, out of the FAA.

Bill Walton:

I see, if you do it here, you're going to do it everywhere.

Bob Poole:

It could be done everywhere.

Bill Walton:

If you prove it works here, then we might look at other-

Bob Poole:

Every single other government employee union was mobilized against this, which appealed to Democrats in Congress. It was partly probably audiological, but but it was also union PAC money and so on and so forth. And something called the FAA Manager's Association that represents a couple thousand front line supervisors also decided they were threatened by this. They didn't want to lose civil service protection. They love the bureaucracy that makes them feel important and blah blah blah. FAA also, because it's a government bureaucracy and civil service pay scales, they have a real tough time hiring and keeping really top notch program managers, engineers, software people. Those people can make two or three times as much in the private sector. They can get bonuses, they can get stock offerings and so forth. So FAA then becomes dependent on contractors, on big aerospace contractors.

Bill Walton:

Mm-hmm (affirmative).

Bob Poole:

I mean, I started out, my first job out of MIT was at Sikorsky Aircraft. I know how the game's played.

Bill Walton:

Great helicopters.

Bob Poole:

Yeah. Great helicopters. But what you want with government contracts, you want to bid competitively to get the job, and then change orders, well what about this, what about that? That game is played relentlessly.

Bill Walton:

Picking up on change, in our closing moments, here, can Congress pass a bill simply saying we're going to change this from the old system into this system?

Bob Poole:

Yeah, they can. That's what we have. We actually had a bill.

Bill Walton:

This solution is in the hands of Congress.

Bob Poole:

Yes. It's entirely in the hands ... we had a bill this year that we had a champion. Chairman Shuster with the House Transportation Committee was all for it. It passed the House committee with protections for general aviation. There were actually going to be no user-fees by statute on even business jets and any general aviation.

Bill Walton:

So they got out-

Bob Poole:

They got out completely free. Well, what happened, the politics of this bill with that in it never got to the House floor because of the coalition built by the business jet people. They told lies to small town mayors, small airport directors, saying, "This is a plot to have the big airlines take over air traffic control and the national air space, and they're going to do this in turn. All the spending is going to be biased in favor of big hub airports. You guys are going to lose out." This was all completely wrong.

Bill Walton:

They were all told it's going to be a greedy, for-profit corporation.

Bob Poole:

Exactly. They portrayed it as if it was a greedy, for-profit instead of what it actually was, which was a clone of Nav Canada Non-Profit User Co-op, basically.

Bill Walton:

So we need to mount ... you and me and whoever else, we need to mount a PR campaign for this.

Bob Poole:

Well, a lot of us have been trying. I mean, the airlines were very strongly in favor of this, along with the controllers union, the pilots unions, flight attendant unions were for it.

Bill Walton:

Yeah.

Bob Poole:

They all said, this is going to make the system so much better. It's going to be less costly, it will be more efficient, have better technology sooner. But this coalition, there was never a counterpart in the Senate to this bill, because Senate heavily represents rural states.

Bill Walton:

And you mentioned that a lot of the members of the Congress fly planes.

Bob Poole:

They are. There's a huge general aviation caucus that either fly planes or like the private pilots and their political action committees.

Bill Walton:

Now, one thing I heard was that, well, this is going to hurt the rural airport.

Bob Poole:

Yes, that was the propaganda line that the business shed community sold. They bamboozled small town mayors, small airport directors into seeing this as a plot that would disadvantage rural America small towns and so forth.

Bill Walton:

So the line of action here is to support Congress moving on this. Is there a bill? Is it dead, now?

Bob Poole:

It's not completely dead. The House has passed its FAA. FAA gets reauthorized every four or five years. House has already just passed the bill with the air traffic provisions stripped out in order to get enough votes to pass it on the floor. The Senate has only the Commerce Committee has approved a bill, but it's still subject ... actually, they might not have approved it. It still could be amended to include. It probably wouldn't include the whole corporation idea, but bare minimum would be to take it out of the FAA and maybe set it up as a separate entity within the Department of Transportation. You'd at least get the arms length safety regulations.

Bill Walton:

What's the name of this bill?

Bob Poole:

It's the FAA Reauthorization Bill.

Bill Walton:

FAA Reauthorization.

Bob Poole:

Yeah.

Bill Walton:

So the next time you, who are listening to this, are sitting on a runway in an airplane in a long line of planes at La Guardia and saying, "There's got to be a better way." There is a better way.

Bob Poole:

There definitely is.

Bill Walton:

So you text your Congressman and say, "Support the ..."

Bob Poole:

Air traffic corporation. Make the air traffic system into a self-funded air traffic corporation and get it out of the government.

Bill Walton:

Got it. Okay. And you can follow Bob's writing on this at ...

Bob Poole:

Reason.org.

Bill Walton:

Reason.org.

Bob Poole:

Just by name, my newsletter on air traffic control, you can sign up for that. It's no charge, comes out every month, and keeps you posted on these things.

Bill Walton:

Great. Well thank you, Bob. This is fascinating. Let's make this happen.

Bob Poole:

Thank you very much.

Kenny:

Okay, excellent. Quick question. Are you ready to launch right into the next one where I won't stop cameras? Or do you want me to stop now?

Bill Walton:

Oh, we're ready to launch now.

Bob Poole:

Yeah, we might as well go ahead.

Bill Walton:

Because he's got to be somewhere. Got to catch a plane.

Kenny:

Well that was pretty much 20 minutes.

Bill Walton:

Yeah, that was the ...

Bob Poole:

No, I'm actually have dinner tonight. I'm getting an award for the work on air traffic control from the ENO Center for Transportation.

Bill Walton:

Congratulations.

Bob Poole:

Policy Entrepreneur of the Year, or something like that.

Bill Walton:

I'd vote for you. Okay, so the next one is ...

Bob Poole:

Metro [00:21:45]

Bill Walton:

So I'm going to launch this one. We'll keep her running, here.

Kenny:

Just a minute, please.

Bill Walton:

You going to take a second?

Kenny:

Yeah.

Bill Walton:

Okay, take a second. Then we'll launch into it. Well, people get a lot of awards, and in your case-

Bob Poole:

I get an award for not accomplishing it. What can I say? I mean, I'm not the political tactician. I'm the policy guy, and we built a strong coalition. The strongest we ever had. This was tried in the Clinton administration, inspired by Airways New Zealand. It was '94, and they actually-

Bill Walton:

Yeah, this was a Clinton-Gore thing.

Bob Poole:

Actually had a bill drafted. The Secretary of Transportation supported it. They could not get it out of committee. They could never even get approved by the Aviation Sub-committee.

Bill Walton:

Kenny, are we ready?

Kenny:

We are ready. Ready when you are.

Bill Walton:

Okay. I am ready to go, here.

Kenny:

Want to reset your-

Bill Walton:

Yeah, let me reset the clock, here.

Kenny:

Set another 20, I'll let you know.

Bill Walton:

Yeah, we're going to do 20. I like this 20 minute discipline. We sometimes get ... we could have talked forever.

Bob Poole:

Oh, oh yeah. Yeah. Get me started on this, you know. I could tell you stories.

Bill Walton:

Okay. Here we go.

Kenny:

Sound is good, we're still rolling on everything. Alright, whenever you're ready.

Bill Walton:

Think about what American motorists put up with when we drive on our freeways and our major highways. Chronic congestion, hours wasted in traffic, poor maintenance, crumbling bridges, Congress launching boondoggle bridges to nowhere. These problems all stem from an obsolete funding and management model, so says my guest, Bob Poole, who's the founder of Reason Foundation and is their Director of Transportation Policy. Bob is an MIT engineer, advised the Reagan, both Bush, and the Clinton administrations on infrastructure issues, and he was also an advisor to the Trump transition team on all things infrastructure. Bob, let's talk about why our highways aren't serving our interest and what we can do about it.

Bob Poole:

Okay. Our highways are a classic state-owned enterprise. They are run by a government agency that has nothing to do with the market. Their budgets come annually from politicians and legislatures. We do pay gasoline taxes, which are supposed to be the highway funding, supposed to be a user fee, but they're actually paid to the state governments and to the federal government. They go into the treasury, they get appropriated annually by legislators, and there's basically a little bit of financing because the states sometimes issue transportation bonds, sometimes backed by fuel tax revenue, sometimes backed by general tax revenues, but mostly it's on a cash basis.

Bob Poole:

People who use highways are not even talked about as customers in the transportation business. They're called users, and treated as users. And in fact, in some states like California, they're treated as nuisances. That the policy focus is, we've got to get them out of their cars and off the highways and into buses.

Bill Walton:

So they're not customers.

Bob Poole:

They're not customers in any way, shape, or form.

Bill Walton:

I think you're right. They're users, and they are being used.

Bob Poole:

They are used, exactly. This is a terrible model. Milton Friedman was the one who first put me onto this. He wrote an essay that's little known, in the 1950s before the interstate highways, saying that our highways are a socialist enterprise.

Bill Walton:

Well, let's do a little history. We started out in the 19th century when we had horse and carriage and buggies and that sort of thing, and we had a lot of highways that were owned by entrepreneurs.

Bob Poole:

That's right.

Bill Walton:

And they paid user fees.

Bob Poole:

They were toll roads, called turnpikes. Yeah, but they were private. They were started by entrepreneurs and people representing towns that wanted to have better connections to other towns that were 30, 40, 50, 80 miles away.

Bill Walton:

So the automobile starts getting very popular, thanks to Henry Ford. More cars on the road, we need more highways, we can't do this.

Bob Poole:

Well, first thing we needed was paved highways. City streets were paved by then because there were lots of wagons, there were trolleys with tracks down the street. But almost all highways were dirt or gravel roads. They were not paved in those days. So the movement came partly from the farmers to have paved roads outside the cities. Rural roads. And the old turnpike model, the turnpikes were basically all gone by that time. Most of them had eventually folded as competition from railroads, basically, yes. So we didn't have the examples anymore so people kind of forgot about it. So Oregon came up with the first gasoline tax. All cars got about the same miles per gallon, the early cars, and it seemed like an obvious user fee. Tolls would have been better, but it was cumbersome to collect tolls since you buy gas, anyway.

Bob Poole:

Within ten years, all states had gasoline taxes dedicated to highway. Everything dedicated entirely to highways, and usually called a highway trust fund. Federal government, in the '30s in the Depression-

Bill Walton:

And gas taxes were collected at the state level.

Bob Poole:

At the state level.

Bill Walton:

And did we have federal gas taxes then?

Bob Poole:

We didn't, then. Highways were entirely a state's responsibility. In the '30s, in the Depression, Congress looked at all the revenue coming into states through the gasoline tax and said, "Gee, we should get these." So they put in a one cent a gallon federal gasoline tax that the states had to collect and send to Washington. It was not for highways. It was just a general revenue source to help bail out the federal government and support the New Deal programs. And they gradually raised it to two cents. I think by the time the interstate highway program came along in '56, they proposed a new federal gasoline tax. It was either four or five cents a gallon. That was the first dedicated highway use tax for the federal government, and that was solely for the purpose of building the interstates. It wasn't to fund state

highways. It was to build the interstate highway system, and the presumption was, "Well, once that's built it'll go away." But what happens?

Bill Walton:

A tax that goes away.

Bob Poole:

A tax that goes away, you're never going to see it. So it took longer and more cost to build the interstate.

Bill Walton:

How much are we raising from the gas tax now at the federal level?

Bob Poole:

It's about 40-some billion a year.

Bill Walton:

40-some billion.

Bob Poole:

But it's not growing in real terms, because of improved fuel economy, electric cars and so forth.

Bill Walton:

Well that's one of the ironies of this system. Irony is maybe the wrong word, but as we make cars more fuel efficient-

Bob Poole:

Right, oh yeah.

Bill Walton:

And they use less gas, you're collecting less revenue to pay for the roads.

Bob Poole:

Exactly, so what a lot of us-

Bill Walton:

Sort of unintended consequences.

Bob Poole:

It's an unintended consequence of a set of other policies originally started because of energy independence. We didn't want to be importing so much from the Middle East. But it's now environmental type of thing. That's going to continue going on, regardless of the change. I mean, it'd make it slow down a little bit, but I don't think there's any-

Bill Walton:

But the \$40 billion doesn't go to highways and ...

Bob Poole:

Oh, no. See, what happened over the years ...

Bill Walton:

So that's a change.

Bob Poole:

The Congress kept increasing it. It's now 18 point something cents a gallon. It hasn't been increased since 1993, though, because it's become so unpopular. Congress invented ... there's 108 federal programs that are funded by federal transportation program. Transit, sidewalks, bike paths, recreational trails, all funded out of that federal hype. 108 separate programs.

Bill Walton:

It's almost a quarter of the budget, isn't it? Or even more?

Bob Poole:

It's about 25% of the budget that goes to non-highway purposes. So that's one reason I think that it's so unpopular.

Bill Walton:

And the gas tax is a regressive tax, isn't it?

Bob Poole:

Well, it is to some extent, yeah.

Bill Walton:

It hits the poorest people hardest because they pay disproportionately more for gas.

Bob Poole:

True. On the other hand, rich people tend to drive bigger, more expensive gas-guzzlers to some extent.

Bill Walton:

Are you talking about my F-150 pickup truck?

Bob Poole:

Right. So gas taxes are not as inequitable in that sense as state sales taxes for transportation, which we see a lot of in urban areas. Those are really regressive. But there's probably not any good other way to pay for a lot of local transit and stuff. So anyway, the federal thing is broken. It's not collecting not enough. Congress ramped up the spending so much starting about 15 years ago, that when the gas tax started leveling off, they said, "Wait a minute. How are we going to continue the gravy train?" So they started, every time the reauthorized the federal highway program, they had to get bailout money.

Bob Poole:

It's \$10 billion a year of general fund money that now goes into the highway trust fund, in addition to what comes in from gas taxes now. Year after year after year. So they're taking in 40 and spending 50, in round numbers, to support all this other stuff that they're doing. And every single one of those 108 programs has a constituency behind it, so if you try to say, "Oh no, we want to go back to having it be only for highways." Forget it. The politics of that just don't work.

Bill Walton:

So what's the ... you've written a book about it. It's going to come out in a couple of weeks, called "Rethinking America's Highways: A 21st-Century Vision for Better Infrastructure." So you have solutions.

Bob Poole:

I have solutions. The vision is that we've got to shift from the state-owned enterprise funded by taxes to basically a kind of a modern day toll road model where the highways are basically vital utilities like electricity, water supply, telecommunications, natural gas service that comes to your house, cell phones, cable. All of these things are provided by companies. You pay the company based on how much of the service you use. You get a transparent bill. The money goes entirely to the company, unless the government puts some little utility tax on it, but that's a different question. But that model, highways are the only vital utility that we have that is not done in a corporate structure with user payments directly to the provider. Instead, the money goes to the government and is allocated politically, which is why you get all sorts of perverse outcomes like bridges to nowhere. A project in every legislator's district this year, but maintenance takes the leftovers. So you have massive deferred maintenance building up because it's not politically sexy for the legislators to fund that.

Bill Walton:

So, who owns the land that the interstate highways are on?

Bob Poole:

The states. The states own the interstate highways.

Bill Walton:

So it's not ... the federal government doesn't own that.

Bob Poole:

No, no. Federal government paid 90% of the cost, originally, but they owned, and it's the states' responsibility to properly maintain, widen when it's needed, and rebuild when they wear out. And they were built with at best a 50 year design life, and most of them are over the 50 years, now, and in the next decade almost all of them will be older than 50 years. They need to be rebuilt. Many of them need to be widened. I did a big study at Reason Foundation four years ago, estimated the cost in the ballpark of a trillion dollars to rebuild and widen, where necessary.

Bill Walton:

So this has been tried in Europe.

Bob Poole:

Oh yes, yeah.

Bill Walton:

And you go on their interstates, or whatever they call them there.

Bob Poole:

Yeah, motorways. Most of the motorways are toll. Germany does not have tolled motorways, but France, Italy, Spain, Portugal all have tolled motorways. To some extent in Austria, and all over Latin America this is what they're doing, now.

Bill Walton:

Who owns them?

Bob Poole:

Well, it depends on the country. In France-

Bill Walton:

Well, just generically.

Bob Poole:

Well, nominally the national government in France owns them, but they're long-term franchises like our electric utility franchise. They're typically between 50 and 99 years.

Bill Walton:

Okay.

Bob Poole:

So, but the companies own the facilities for the duration of the franchise. When it expires the government can renegotiate a new term and put it out to bid for somebody to come in and buy the assets and then run them for another franchise term, or the government, in rare cases, can take it over and run the utility itself. So that's the model that we have in France, Italy-

Bill Walton:

So this is private ownership, but like the utilities, it's highly regulated.

Bob Poole:

It's regulated, yes.

Bill Walton:

Regulated by the state or the federal?

Bob Poole:

By the states. Well, in France I think it's national government. But in Australia, it's the state governments, in Canada it's the Province governments.

Bill Walton:

And the owner of these highways have an incentive to keep them highly maintained and user friendly, to use that user word.

Bob Poole:

Absolutely. First of all, if they're going to issue revenue bonds based on the toll revenues, people who buy the bonds insist that they have proper maintenance because otherwise people won't use the roads.

Bill Walton:

We tried this in Indiana. Didn't Mitch Daniels sell-

Bob Poole:

Yes, Mitch Daniels, the governor, leased for 75 years, the Indiana toll road. Now, it turns out the initial team that bought it very aggressively financed it, and they had balloon payments coming due. They paid \$3.8 billion for a 75 year franchise.

Bill Walton:

So they overpaid. They financed it improperly.

Bob Poole:

Yeah. And after the great recession, cut their truck traffic revenue in half. They could not make the balloon payment, and they filed Chapter 11. So there was no taxpayer bailout. Wisely, the Indiana state government said to the lenders, "Alright, let's together figure out how you could get protected out of this." They agreed to put it out to bid for a new franchise.

Bill Walton:

So this is like a company going ... I mean, my old private equity world just had somebody new come in, and they pay less for it that knows economics.

Bob Poole:

Well, it turned out in this particular case, the consortium of pension funds, led by Australia's IFM Investors, which invests in infrastructure on behalf of pension funds in Australia, paid \$5.6 or 5.7 more than the original session for the remaining something like 72 years of the concession. They decided that they didn't need the double-digit return that the for-profit companies were getting. They would be satisfied earning a safe 8% return. So they put a very heavy equity.

Bill Walton:

I'd be happy getting a safe 8% return.

Bob Poole:

They put in more than 50% equity in the deal and only had to finance half.

Bill Walton:

So you're saying this is ideal for pension funds.

Bob Poole:

It's ideal for pension funds, yes.

Bill Walton:

So public pension funds could be investing in it.

Bob Poole:

Yeah. And we are having, not only pensions, there's global infrastructure investment funds that are many of them headquartered in New York, that are investing in infrastructure all over the world. They can't find good projects to invest in in the United States. Same thing, the big pension funds like Calpers and the New York State Retirement system, some of them have now invested in the new franchise for the Indiana toll road.

Bill Walton:

So this solves one of their problems.

Bob Poole:

It helps solve their problem of diversifying the portfolio and getting sound, long term

Bill Walton:

How do you find an investible asset that protects your pensioners, yeah. Let's imagine this is in place. We're driving from Washington D.C., we're in that area right now, and we want to go to Columbus, Ohio.

Bob Poole:

Uh-huh.

Bill Walton:

I want to get out on 270 and head that direction, how do I pay for that?

Bob Poole:

You pay with an Ez Pass transponder. We don't even need new technology to do this. Ez Pass is an interoperable system. All the northeast and Midwest states that have toll roads already are Ez Pass. You get one bill using a single transponder. If we do this model to rebuild the interstates, we'll have a single transponder operable nationwide. The trucking industry already has a go anywhere transponder that works in every state that has tolls.

Bill Walton:

So if I'm paying for this, can you project what cost would be to the typical?

Bob Poole:

Yeah. We estimated in our study, where we looked at a 40 year model, we started out and with 2010 value three and a half cents a mile for passenger cars on interstates, on rebuilt interstates. But inflation has justified to consumer price index every year.

Bill Walton:

Okay.

Bob Poole:

So it would be three and a half cents a mile in real terms, starting with the 2010 value.

Bill Walton:

Do you do it by weight class?

Bob Poole:

Well, for cars there's not much difference. We didn't think it was worth.

Bill Walton:

But then 18-wheelers would be.

Bob Poole:

18-wheelers would pay three or four times that.

Bill Walton:

Then would the gas tax go away?

Bob Poole:

Gas tax would go away. You'd only pay one and not the other.

Bill Walton:

So, would the gas tax offset the similar comparable to, less than, more than?

Bob Poole:

Gas tax is less than this per mile. It works out, federal plus state works out to between two and two and a half cents a mile. That's one of the reasons we're not rebuilding interstates. There's not enough money coming in to build the premium infrastructure that's the most important. It's okay to build the two-lane state highways.

Bill Walton:

Now, I'm sitting with a man who pioneered public-private toll concessions. You developed the high occupancy toll lanes, HOV.

Bob Poole:

Yep, HOT.

Bill Walton:

You developed truck toll lanes, you do virtual exclusive busways, and managed arterials, so I'm beginning to think we could probably figure this out with you.

Bob Poole:

I mean, these ideas, all the ones you've mentioned, have been tried and are working, but this utility model is now ... it took a full book for me to really fully explain this and give the historical background.

Bill Walton:

Which comes out-

Bob Poole:

It comes out in June from University of Chicago Press.

Bill Walton:

Okay.

Bob Poole:

It's \$30. We negotiated to get an affordable price. They wanted to start out at \$45.

Bill Walton:

Well it looks like a \$45 book. There's a lot in it.

Bob Poole:

I'm doing a national book tour starting in July to try to get the word to state transportation agencies, to university transportation centers. I'm speaking of the Kennedy School at Harvard, at UC-Berkeley, UCLA, USC, and a number of others.

Bill Walton:

So, we talked in an earlier show about air traffic control and political barriers to change. It seems like there are massive political barriers to go from where we are to a utility system.

Bob Poole:

There are, but I think the key to this the key to start, there are two key things. One is, we need to start shifting from per gallon to per mile as the way to fund highways. The second is the crying need to start rebuilding the interstate highway system. The only way to do that is with per mile tolls. Indiana is already underway. They have done big feasibility studies of their own in the last year and a half. They're in phase II of those studies. They want federal permission to be able to toll finance the reconstruction to all of their interstates. So it's starting to happen at the state level. Wisconsin legislature is in favor of doing this.

Bill Walton:

Now, President Trump's talked about a trillion dollar infrastructure plan. Did you have a hand in shaping that?

Bob Poole:

I had a hand in that. I was an advisor to DJ Griffin, the White House infrastructure maven. And it called for giving the states the option of tolling, removing the federal barrier that exists on tolling currently

non-tolled interstates. But it would be for the purpose of financing the reconstruction and modernization.

Bill Walton:

So we need Congress to act on that.

Bob Poole:

Congress would have to act on that, yes. You can not do that without Congress. Although there is a three-state pilot program that I'm sure Indiana has applied to that would give them permission to do one interstate with toll financing as a test. That's at least a starting point. If we can get one or two states doing this, demonstrating it works, that there's investor interest in doing it, I think it'll start the ball rolling.

Bill Walton:

So we talked about the interstate system. We've got to wind up here in just a second, but what about the two-lane highways?

Bob Poole:

The two-lane highways, yeah, what we're going to need to do with that is to state by state have the states come up with a mileage-based user fee, a per mile charging system to phase in and phase out their state gas taxes. We can't wait for Washington to do this. The states own the highways. They are under the gun.

Bill Walton:

Using the Ez Pass system to determine.

Bob Poole:

Something like that, yes. Or something as simple as annual odometer readings, or a little gadget that plugs into the diagnostic port under your dashboard that doesn't track exactly where you go, it tracks how many miles you drive during the month, and then have a communications link to upload, "alright, this is the number of miles that Bill Walton drove this month, and this is how many were in Virginia, and how many were in this state and that state, based on cell tower location. It's all you'd need.

Bill Walton:

And the politics of this is such that, would the average driver feel like this is going to be more expensive and would need to be sold on driving on a better highway?

Bob Poole:

Well, the average driver today thinks this is a terrible idea because the average driver thinks it's going to be Big Brother in his car.

Bill Walton:

Yeah. It is.

Bob Poole:

No, there's pilot programs, Bill, in about eight states, now, that are trying out various methods, and using private sector intermediaries to be the ones that administer the program, so you're not paying it to the government. Giving them simple ways to do it, and a choice. And people like to have a choice. The people who actually participated in these pilots get it after while, and they actually find it user friendly and they think good. As long as it's basically replacing the gas tax, not being an add-on, they think that'll be okay. They could see the case why fuel tax is running out of steam.

Bill Walton:

Great. Bob, thank you. I highly recommend picking up a copy of "Rethinking America's Highways: A 21st-Century Vision for Better Infrastructure."

Bob Poole:

It will be on Amazon, and there will be a Kindle edition, also.

Bill Walton:

And they can find you at [reason.org](http://reason.org)?

Bob Poole:

Reason.org.

Bill Walton:

Okay. Bob, thank you. Until the next time.

Bob Poole:

Thanks, Bill.

Kenny:

Super. Alright. Excellent.

Bill Walton:

You get 'er done. You know what you're talking about.

Bob Poole:

Yeah, 40 years, I guess I do.

Bill Walton:

Yeah, you're pretty good at this. Well thank you, thank you, thank you, thank you.

Bob Poole:

Thank you. I really appreciate this.

Kenny:

We'll get you all the links and everything like that. You can use this to promote.

Bob Poole:

And I'll put a note about it in my newsletter for people.

Bill Walton:

I'm going to send it to all my Congressmen friends.

Bob Poole:

Good. Good. Okay, well I really do need to shove off.

Bill Walton:

Okay. I'll see you again.

Bob Poole:

Great meeting you, and I'm looking forward to staying in touch.

Bill Walton:

Congratulations on your award.

Bob Poole:

Thank you.

Kenny:

When would you like to do the tease and thank you?

Bill Walton:

I think soon, like now?

Kenny:

We can do it now.

Bill Walton:

Although, I kind of did the teaser. I did the teaser. Let me give it a little thought upstairs. I'll be back down in about half an hour, maybe?

Kenny:

Okay. I'll set up for it, and then ...