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S1 00:18 Our next speaker actually completes our quadfecta of former American College-Sports Medicine Presidents. This lady, Janet Rankin, has always been supportive of my career in the future and has been there to help many other students in the past. I would hope that you would please join me in welcoming Dr. Janet Rankin to the stage.

[applause]

S2 00:39 Thank you. Thanks. Howdy, got to say that. I also have to say hello ya'll, and a big shout out to the Virginia Tech audience that we have as well as two other Virginia schools, JMU and VCU. Today I'm going to talk to you about a topic that's relatively new to me, but one I'm getting very passionate about. It's different than the research I've been involved in for over 30 years at Virginia Tech. I'm happy to talk afterwards in the lobby with you about that, but this is a new area for me and I hope to provoke you to think a little bit differently than you have in the past. Now this title, "Fit Me Fit Planet," I made on purpose a little provocative. What does your fitness have to do with the fitness of the planet? So hopefully, I'll be able to convince you there is a connection. So what's the statement of the problem? Basically, we're too inactive so that's no surprise for you. But, why? People know, they know they should be more active, so it's not a problem of knowledge. They know they should be walking up those steps - only one lone person walking up the steps - but they don't do it. So that's the statement of the problem, why? I think a big part of that is we've engineered physical activity out of our lives and we should build it back in.

S2 02:01 So we need to build physical activity into our day-to-day lives. This you might have known that New York City added a bike share program. This I think is interesting, it's the lone cyclist watching all the people, exercising on the stationary bicycle in the workout place. So, why aren't we actually biking more and walking to work? Active transportation: walking, cycling, rolling is a way to incorporate physical activity in our day-to-day lives, but we're not doing much of that. Only about 3% of US commuters are actually walking and a very few that are biking to work. You compare that to other countries like Netherlands is the majority of people. Now I know that's high extreme and I never expect us to get there, but certainly we should be able to move up beyond 3%. Why are we not doing more of that? And in my mind when I read this area, I think there are two primary barriers that I see that we need to overcome. One, we need access to safe and attractive infrastructure and two, our attitudes and habits need to change. So as far as the safe and attractive infrastructure, you don't have to go very far to find places like this where you're afraid to cross that road. There's no sidewalks or I love this bike lane here that has an obstruction right in the middle of it.

S2 03:28 So we're building our communities for cars and not for people to be physically active. So we're all about how to promote physical activity to the population,

but we're making it difficult for people to be physically active on a day-to-day basis. So a little about attitude, that I feel is another barrier, and first, I'm going to give you a personal story. I was going up to Washington DC within the past year, going actually to a walking conference. It was the "Everybody Walk" conference, where we're going to talk about promotion of walking. And I had Googled on my computer and I knew the conference was only a little more than a mile from my hotel, but I don't have a good sense of directions so I needed the person at the front desk to point me in the right way to begin walking. And when I told her where I was going she said, "Oh my gosh. Oh no, that's too far. You can't walk there from here." It was a little over mile. Yes, I can. A lot of us can, but we have an attitude that we can't - we have to drive. Another thing is harassment, I'm a cyclist and a lot of people get harassed and these photos may be a little extreme. But there was a study at Australia that founded about 76% of men, who were cyclist in Australia over the last year had been harassed in some way shape or form.

S2 04:48

So we don't have a good attitude about people who want to do this. Let's get to some potential solutions. I think we have to have new motivators for physical activity. We've been telling people for years, it's good for your health. They know that, but they're still not doing it. So I want to talk about a co-benefit approach. Other people are going to be motivated by different things than health, so I'm going to talk about some of those things. For example, being physically active can help our environment, and I hope to give you some evidence for that. And also our economy, whether it be on the personal level or on a global level. I want to show you a little bit of evidence on each of these three areas. First, the health co-benefits is the easiest one, and there is good evidence for this, that in areas who have good connectivity and walkability, they have trails, they have bike lanes, people tend to be healthier, they get more activity, they tend to weigh less chronic disease. There's also some research out of combining all these studies into a meta-analysis to see if it actually reduces cardiovascular disease. In this study they found that there was 11% reduction in cardiovascular risk in people who are active commuters.

S2 06:06

So there is evidence that this is good for your health, so I won't say more about health. Let's talk about the environment. What do I mean by the environmental co-benefit? And here, I have to say that the transportation sector is the cause for about a third of the greenhouse gas emissions that we have in the US, and it's using about 70% of the oil - so promotion of pollution and using a lot of our fossil fuels. We all have personal decisions to make, and I'm not saying that we're all going to start walking or biking. I don't mean that, but there is a difference in how much we contribute individually. We can make a difference in what happens to these CO2 emissions depending on what we do. So how could we reduce this effect on the environment, and there are various modeling situations that have been tested to see what impact that it could have. For example, in this estimation, if US drivers made just one four-mile round trip per week on their bike instead of a car, we would save two billion gallons of gas. Or, if they did just modest biking and walking in place of driving their car, we could save huge amounts of CO2 that's going into our atmosphere. So, maybe you're one of those that said, "Oh no, environment, I'm not into that. Global warming, I don't believe in that stuff," but I bet you like to save money.

S2 07:34

So let me talk about the economical co-benefits and I'm going to talk about at the personal level, the community level, and the global level. Starting with the

personal level, all of us mostly probably in here have cars. It costs money to have a car. You buy the car, you have to maintain the car, you feed the car, you fix the car, you have insurance for the car so it can be costly. Now, if you use public transportation, like a bus - pretty cheap. Bike, really cheap - unless some of you out here have pretty fancy bikes, and you might be spending a lot on accessories and things like that. Walking, virtually nothing. So it saves you personal money if you do more active transportation. What about your community? Here's a picture on the left of Washington DC, before and after in Washington DC area that improved their walkability. Where would you want to shop? So it's going to bring people down to shop, to go to restaurants, if it's a more attractive and walkable neighborhood. On the right, we know that walkability is important for people in selecting where they want to live, and it actually increases the value of homes. To support that, I found a survey that was just put out last month by the National Association of Realtors, where they asked a series of questions.

S2 08:53

They're trying to find out what people are looking for in their homes. You can see a variety of the answers here show that they want walkable neighborhoods. They want to be able to walk to school, to work, or bike to work. It's a very important amenity that they expect to have. So for the population, there are studies that try to estimate the benefit on the economy for the population. And in this study they asked if we just replaced 50% of just short car trips with a bike in these Mid-Western, metropolitan areas what would happen? And their estimate was an \$8 billion savings and this was because people were healthier, they would have less need for healthcare costs, improved air quality and avoided mortality, so in a large population we can save some money. Evidence like this, that if we could just get people to walk more, improve their health, we can save money for healthcare on a global level. So hopefully I've convinced you that you could save money and the economy of the globe could be better. So let's get to barriers. How could we get more people to be physically active through active commuting? These are some of the barriers that we hear from people why they don't do it, well, it's too hard.

S1 10:14

Well the fact is, about 27% of all trips are one mile or less so again, most of us can do that without too much trouble. In fact, it probably takes you less time to walk than it would be to drive and to find a parking space, right? But, less than a third of these trips are actually done by biking or walking, so we need to adjust our attitude in what we're willing to do. Too expensive, here's a study, they tried to assess how much it'd cost to add a new trail in Lincoln, Nebraska and it does cost money to build this infrastructure. It was average of \$235 per mile, but they estimated the cost of inactivity was actually greater so the healthcare costs for someone who's inactive, so you have to figure that in to the estimate as well. If we compare that to what it cost to build highways, it's not even in the same close ballpark. So overall, it's just plain cheaper to build more infrastructure and it reduces congestion if we have more people doing active transportation. Obviously, it's not going to be everybody, but we could build up more active transportation. Unfortunately, this is the scenario today. We're putting 1.6% of our US federal transportation dollars in to biker, pedestrian infrastructure.

S2 11:34

So I think we have a long way to go there. The barrier that people won't do it. Well, there is evidence. This was done by the US Department of Transportation who's very interested in getting more people off the roads and they put

together pilot program where they encourage active transportation. And what you see here, the orange line is the increase over four years and use of active transportation and the reduction in miles that they were using their motorized transportation. People won't give up their cars. I think this is true, most of us are not going to give up our cars, but maybe we'll use them less. I think the data is showing that young people, like yourselves, are more open to more active transportation, less use of their cars. I provide you data here, fewer young people are getting drivers license than ever before, and choose to use alternative transportation. And one study out of Michigan that was just published asked people, "Why did you not get a driver's license?" I highlighted there, 22% said, "It's because I prefer to walk or bike, " and 9% said, "I'm concerned about the impact on the environment when I drive," and a full 21%, they don't plan to ever get a driver's license. So I'm curious about this and how this is going to play out over time.

S2 12:53

Safety is definitely a barrier and one that I think about everyday when I go out on my bike. It is more likely that you could be hurt, you're the one that's going to suffer if a car runs into you. We need to do something about safety. How can we improve safety and how important would this be to use of act of transportation? They asked a lot of individuals who whether or not they had bikes in Seattle and Boltmore and 71% said, "Yes, I have a bike, but very few people use them." When they looked at the walkability of the neighborhood, interestingly, that didn't predict whether or not they used their bikes. It was safety, it was their primarily concern and the reason they were not using them. And they asked them, "If you thought you were safe from cars, would you bike?" And it jumped from 9% to 39%, those who said, "I do it at least weekly". So I think we know that there's some room we could improve there. You'll find any solution, what could we do? Well there's some that we could work on those attitudes that we need to improve and move that. Some are easy, creative and inexpensive and this I love the story. This guy Matt, he's in Raleigh, North Carolina.

S2 14:05

He put up signs around the city of Raleigh just pointing out, "You know, it's only seven minutes if you walk over here," and people who were going to drive, maybe they'll rethink it. Now the city did take down all those signs because you're not allowed to do that, but then they got such an outcry from the community. They started their own program, so I think that is so cool. Some simple, easy things provision bike racks, having events, being a role model can be effective. Now there is the need for more infrastructure, that's obviously more expensive and can't be done quickly, but it's important to have things like separated bike lanes, good sidewalks that are safe to walk on and change some of our policies. So we need to increase public demand, and biking or walking should be a choice. I'm not saying everybody is going to do this. I understand that. I'm not naive, but it should at least be a choice that you could bike or walk if you want to, and in many places today it's not a choice. So I want to mention that ACSM, American College-Sports Medicine, we're working on this and pushing a new initiative called "Active Earth," which really encompasses a lot of what I've talked about today. If you have an interest I want you to contact me because we're trying to build a network and make some impact on this. So to summarize, hopefully I've explained why I've called it this, you get fit and the planet gets fit. I think we need to expand our message. It's not just about health, but also about improving the environment and the economy and we need to re-

engineer physical activity back into our lives. Thank you.

[applause]

S1 15:53 Great job, Janet.

S2 15:54 Thank you.

S1 15:54 Thank you for the talk. This really does signify not only an additional health benefit, but environmental and economic benefit as well on top of it.

S2 16:01 Absolutely.

S1 16:03 That's kind of cool. So we've got a couple questions here for you. First of all, from Cheryl M, "What do you think about the subway systems in some places implementing a reward system, such as, if a person does 30 squats they receive a free subway fare?"

S2 16:15 Yes, I love this because two of my students - maybe they're watching - sent me the link to a video. I believe it's Russian, that they have some kind of a system that can watch you and if you do 30 lunges or whatever it will give you a free ticket. So it's sort of clever. I don't think we can do that everywhere, but it's trying to encourage people to be more physically active wherever they are.

S1 16:43 And a follow up with that, do you think people would be more motivated by a reward system for being physically active or a fine for being physically inactive?

S2 16:51 That's very interesting. So carrot or the stick approach. I like the incentive approach, so you often can do simple incentives. Just for example, throwing t-shirts out there. People like that. So you can do things at workplaces, have a little contest, a variety of small incentives to encourage people to be physically active. I think that works much better. People don't want to be banged over the head when they don't do what you want.

S1 17:17 Yeah. From Jacob D, "Do you think the government would be more successful in curbing a sedentary obese nation by giving tax credits or incentives for having a certain body fat percentage - reducing your body fat percentage by walking, biking, running in a certain amount of miles per year rather than legislation that bans large soda drinks or trans fats?"

S2 17:38 Okay, again, it's talking about incentives. Where I see this, I don't know, the federal government might get there based on the new healthcare. But in my new insurance that I have at Virginia Tech, I'm given money if I do certain preventive health things. Including, one of the choices is, how many steps did you take. So if you have a pedometer and you log that in - that's obviously my honesty, they assume. They're giving incentives for doing preventive health things, and I appreciate that. I signed up for that choice because of that. I think we need to move in that direction.

S1 18:15 What was interesting like North Carolina, they charge you more for your healthcare if you have a certain BMI or you smoke.

S2 18:21 I see.

S1 18:23 They're taking that "stick approach," so it's interesting. This is the first time I've ever received a question actually for the moderator. This is from, and some of you know Mindy M from Georgia Tech, "Does Lightfoot ride a bike or a race car

S2 18:44

to work?" Neither, I skateboard. Janet, thank you so much.

Yes, thank you. It was great. Thank you.

[music]

[applause]