

Bicycles Can Change The World

Good morning folks,

Today's assembly will cover some of the most serious issues facing us in society today. Particularly those of us lucky enough to live in wealthy, democratic nations. Issues like climate change, mental health, physical health and sustainability. It is clear, if we are going to be able to tackle these challenges, society is going to have to make significant changes. Some changes will be brought about by innovation. But I am convinced some changes, some answers to these issues are already available to us. So, I am going to address these issues through the prism of one possible, readily available answer. A machine I believe is one of the greatest inventions humankind has ever come up with. And that I believe can play a significant role in saving the world. The bicycle. In this assembly I will explain how the humble bicycle can save the world.

First a brief history of the bicycle:

The story of the modern bicycle truly began in 1817 with the invention of the Draisine by German Baron Karl von Drais. This wooden, steerable, two-wheeled contraption, also known as the "running

machine" or "hobby horse," required the rider to push off the ground with their feet, very similar to the balance bikes we use to teach children to ride bikes today.

In 1839, Scottish blacksmith Kirkpatrick Macmillan made a groundbreaking advancement by adding pedals to the Draisine, creating the first pedal-powered bicycle. The pedals were attached directly to the wheels without a chain, so there were no gears.

The 1870s saw the emergence of the iconic and completely bonkers Penny Farthing. A bicycle with an enormous front wheel and a much smaller rear wheel. The huge front wheel meant you could move further forwards for each turn of the pedals. So, the Penny Farthing could go faster at a sensible rate of pedaling. Only really popular in England, the Penny Farthing was a symbol of the Victorian era's ingenuity and adventurous spirit. However, its design posed significant safety challenges. Just getting on and off posed significant jeopardy!

The 1880s brought the advent of the "safety bicycle," which revolutionized bicycle design. With equal-sized wheels and a chain drive to the rear wheel, the safety bicycle was just as fast as Penny Farthing

without the danger. This design closely resembled the modern bicycle and marked a huge milestone in the evolution of cycling.

As we moved into the 20th century, bicycles continued to evolve with the introduction of tires you could fill with air, pneumatic tires, giving a much more comfortable ride. Gears providing more speed and efficiency, and lightweight materials also improved the efficiency of cycling. These improvements saw a steep increase in the popularity of cycling, and it went from being a cult pass-time for eccentrics and weirdos, to a mainstream and highly popular form of transport and leisure activity

Today, bicycles come in various forms, from sleek road bikes to rugged mountain bikes, to cargo bikes, catering to diverse needs and preferences. And yet, on our tiny island, where nothing is really very far away, bicycles have been sidelined as a form of transport. This is a terrible shame, and, as I shall demonstrate, has a negative impact on all sorts of aspects of daily life.

Before I go further, I want to provide some context.

I cycle to work most days. My journey to Cedars is 10 kilometres, which is 6 miles. In the mornings this takes me about 22 minutes. By any measure 10 km, 6 miles, is a short journey. National Transport Survey data tells us an overwhelming majority of people choose to use cars for short journeys, much shorter than my commute. A huge 61% of all car journeys are under 5 miles. I'll say that again. 61% of all car journeys are under 5 miles. Most humans are perfectly capable of travelling 5 miles under their own steam rather than relying on big, noisy, dangerous, polluting motor vehicles. I will argue we should be turning to the bicycle for these journeys, rather than the car. And in doing so we will save the world. Let's look at how:

World save one. Let us start with the obvious. Carbon dioxide that has been stored up for millions of years is released when we burn fossil fuels. Carbon dioxide is a greenhouse gas and so contributes to global warming. Global warming is already causing climate change. We are seeing an increase in extreme weather events as a result. Like the fires we've recently seen in LA. If left unchecked, global warming will also result in sea levels rising. A rise of just one metre will result in over 300

million homes world-wide being destroyed by flooding. The destruction of so many homes will result in conflict, death, and extreme poverty.

Humanity must take urgent action to reduce carbon dioxide emissions.

One simple thing we could do is use the motor car less. Remember, 61% of car journeys are under 5 miles. If even half of these were taken by bike, which is perfectly doable for short journeys, it would make a huge difference to this country's CO2 emissions.

Bikes can save the world by reducing carbon dioxide emissions.

World save two. Health. In the UK 26% of adults are obese. In America that number is 42%. This number is rising worldwide. Obesity increases the risk of a number of serious health conditions including cardiovascular diseases, Type 2 diabetes, joint problems, some types of cancer, gallstones, kidney disease and reproductive issues. One way of staving off obesity is to live a more active lifestyle. Travelling by bicycle, rather than sitting passively in a car, is one easy way of increasing activity. Travelling to work or school by car places that activity into a time slot when you'd be travelling anyway. Bicycles can save the world by reducing rates of obesity and all linked diseases.

World save three. Mental health. There has been a significant increase in people suffering from and seeking treatment for mental health issues in the UK. This increase has been particularly prevalent in young people. Increasingly doctors are prescribing exercise as a treatment for people suffering with depression and anxiety. Exercise brings a number of benefits. For example, our brains release endorphins after we have exercised. These natural chemicals increase our feelings of well-being and contentment. And all you have to do is a bit of exercise. Exercise also reduces the level of stress hormones, like adrenalin and cortisol, in our blood. This, combined with the endorphins is a double whammy of well-being boosting. Regular exercise improves sleep patterns, boosts self-esteem and provides social interaction. Now, I accept this exercise does not have to be cycling, but, again, using commuting time for exercise means it doesn't encroach on other parts of our days. And, again, 61% of journeys in cars are under 5 miles. The answer for increasing our levels of exercise and thereby improving the nation's mental health is right there in front of us. Bicycles can save the world by improving the mental health of the nation.

World save four. Noise pollution. Constant noise is stressful. It can even be used as a torture device. 84% of people in the UK live in cities and urban areas, which are noisy places. Or are they? I had an epiphany during the first Covid lockdown. Cities aren't noisy. Cars are. The first lockdown saw a huge decrease in the number of car journeys taken. We were allowed daily exercise, and I spent my exercise allowance running and cycling in and around Leicester, and it was just so quiet. Because there were so few cars. Covid was awful, as was lockdown, but the reduction in cars on the roads was amazing. If people used bicycles for those 61% of short journeys we could have this peace once again, reducing the stress associated with living in constantly noisy places. Bicycles can save the world by reducing noise pollution.

World save five. Air pollution, other than carbon dioxide. This issue is not well publicised but it is a serious one. Carbon dioxide is not the only type of air pollution cars cause. As you may know, car tyres and car brakes become worn down after a period of time. But where does the material from the brakes and tyres go? It goes into the atmosphere as in the form of a fine dust of microplastics. The air we breathe and the

soil we grow our food in is now all tainted with these microplastics. This pollution is found all over the planet, even in remote areas like the Arctic. Research has only just begun on the long-term health effects of breathing and consuming these materials, but it is established that some of the chemicals contained within them are hazardous to humans. Moving people from cars to bikes will significantly reduce this type of pollution. Bicycles can save the world by cleaning up our atmosphere and soil.

World save six. To be fair, this one is not really a world save. More a reduction in frustration. Driving in cities nowadays is pretty grim due to traffic congestion. There are simply too many cars for the road network to run efficiently. The average speed of a car driving across London is 4 mph. This is walking pace. It would literally be just as quick to walk, and much quicker to cycle. I absolutely acknowledge there are situations when people do need to use their cars. And it would be so much better for them if there was less congestion on our roads. Every person who chooses to use a sustainable form of transport like cycling is one less car causing traffic. Reducing cars will lead to an improvement in the

efficiency of the road network for those who really need it. Bicycles can save the world by reducing congestion on our roads.

When we consider the enormous benefits cycling can bring to individuals, society and the world, we must ask ourselves why more people do not cycle. I'd like to consider two reasons.

The most common reason cited is we do not feel safe on bikes on British roads. Certainly, there are times when I do not feel safe. This is an infrastructure problem. There are countries in Europe where cycling is far, far more prevalent. The thing all these countries have in common is a proper cycling infrastructure. Cycle lanes physically separate from car lanes, not just a strip of red paint on the road. Plentiful, free, secure bike lock ups. Clean, decent changing facilities in workplaces.

A smaller, but still significant issue is the bizarre demonisation of cycling in our media and in society. Cycling is often blamed for problems with our transport network, and everyone seems very keen to talk about dangerous cyclists jumping red lights and cyclists wearing helmets. If we are truly concerned about safety on our roads, the first thing we should be talking about and tackling is cars, not bikes. Over 1600

people are killed by cars every year. That's over four people every day. Every day, four lives are lost, four families devastated. This huge annual loss of life has been normalised to the extent it goes largely unreported and unnoticed by those not directly affected. Compared to this less than two people are killed per year by bicycles. Two per year. And on the rare occasion when a death is caused by a cyclist it is front page news, there is outrage, and we change national laws. If we want to save lives, our media and our society need to shift their focus onto the motor car, not the bicycle. And in doing so we may encourage more people to cycle.

I will finish with a favourite factoid of mine about cycling. In 1973 a study was carried out into the efficiency of various animals and forms of transport. It was found that a human on a bicycle is by far the most efficient mode of transport, and the most efficient animal on the planet. Nothing else comes close when it comes to converting energy into distance travelled.

As the future leaders of this country, I urge you to think carefully about how you travel around it and the footprint you leave. I commend the

bicycle to you because it can save the world by reducing carbon dioxide output, reducing obesity, improving mental health, reducing air pollution, reducing noise pollution and reducing congestion. In the immortal words of the band Queen: get on your bikes and ride.