

BIKE *life*

January 2019

Transforming cities
**The potential of
everyday cycling**


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What is Bike Life?

Bike Life is the UK's biggest assessment of cycling in cities. It is delivered by Sustrans in collaboration with 15 UK cities and urban areas.

This report models the benefit cycling could produce between 2017 and the year 2040 with ambitious commitment to deliver change.

The report uses data from Bike Life 2017 from the seven original cities: Belfast, Birmingham, Bristol, Cardiff, Edinburgh, Greater Manchester and Newcastle.



Foreword



We have a significant opportunity to transform the way we move in our cities.

Everyday cycling has a huge role to play in making our cities more attractive and competitive. Alongside this, cycling can

improve our physical and mental health, reduce pollution and carbon emissions, and improve our congestion issues; meaning it can positively affect everyone.

Cycling in Greater Manchester, like many UK cities and regions is increasing, although not at a pace we'd like to see. We have a long way to go before we can call cycling a 'normal' way to travel, which is accessible to all our residents.

This report models in seven cities, including Greater Manchester, the potential benefits that could be realised if cities increased their ambition to make cycling a normal, everyday activity. Sustrans have taken the objectives and targets as set out in the government's Cycling and Walking Investment Strategy, to double cycling journeys by 2025, and then projected this forecast to 2040. The outcomes for Greater Manchester are huge: cycling could create a total economic benefit of £5.6 billion between now and 2040.

Over the same timeframe cycling could avert 11,300 long term health conditions, saving the NHS in Greater Manchester over £106 million. By the year 2040 cycling could be taking up to 646,000 car journeys a day off our roads.

In Greater Manchester we recognise this opportunity and we want to seize it.

We will be spending two-thirds of our Transforming Cities funding on walking and cycling. We cannot think of a better way to spend £160m on transport that brings such widespread benefits to residents across our region. Working with Chris Boardman, our Walking and Cycling Commissioner, and Transport for Greater Manchester, we will be developing the largest urban walking and cycling network in the UK. This network will help all people start cycling or walking; it will be designed so that a competent 12 year old can ride a bike independently, and for people with mobility problems, physical impairments and adapted bikes.

This investment however is just the start, we want to double cycling and then double it again. We were made to move and now is the time to act on this and transform our great city region, and cities across the UK.

Andy Burnham
Mayor of Greater Manchester

Cover photo: Jon Bewley/photojb • Photo, above: Livia Lazar

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Bike Life in 2040

For too long cycling has been seen as a fringe activity in UK cities. This is despite the fact that the size and density of most UK cities are perfectly suited for travel by bike. For example almost three quarters of trips in Greater Manchester between 3km and 5km are driven. These journeys could be ridden by a cycle at a leisurely pace in around 20 minutes.

Urban road networks across cities are close to capacity, populations are rising and cities need to prepare for the future. The UK Government's own National Infrastructure Assessment rightly recognises that cities need to make the best use of limited space and adopt a less car focussed approach.

Cycling, alongside walking and public transport, is a far more efficient use of street space than driving, and has a vital role to play in any future city transport system. This publication explores the impact cycling can make in the seven Bike Life cities in the future, when long-term ambitious political commitment exists.

Modelling Bike Life to 2040

Cycling in UK cities could be a normal, everyday activity in 2040.

In England, for example the Cycling and Walking Investment Strategy aims to double cycling activity by 2025. This report takes this objective, applies it to our cities and extends it until 2040.

We calculated in 2017 the number of cycle trips in each of our seven Bike Life cities. For this report we have modelled these cycling trips doubling approximately every eight years in 2025, 2032, and finally in 2040.

*Bike Life Birmingham and Newcastle will both expand in area to become Bike Life West Midlands and Tyneside in 2019.



Bike Life in 2040

Combined benefit of increasing cycling in the seven Bike Life cities



Our pathway to everyday cycling

The total benefit to our health, the environment and the economy from all seven Bike Life cities increasing cycling between now and 2040 is staggering.

Based on our model of doubling cycling trips approximately every eight years, cycling trips on average in the Bike Life cities would increase from **0.4** to **3.3 trips** per person each week.

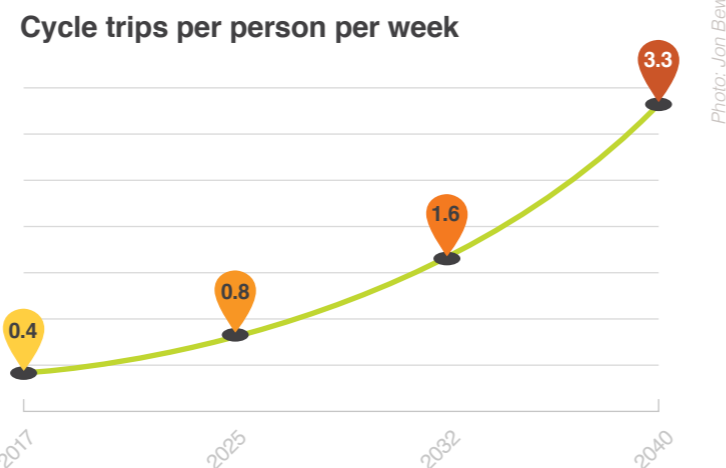


Photo: Jan Bewley/photab



The economic benefit from cycling

In 2017 it was estimated that **123 million trips** were made by bike in the seven Bike Life cities. Using our methodology, in 2040

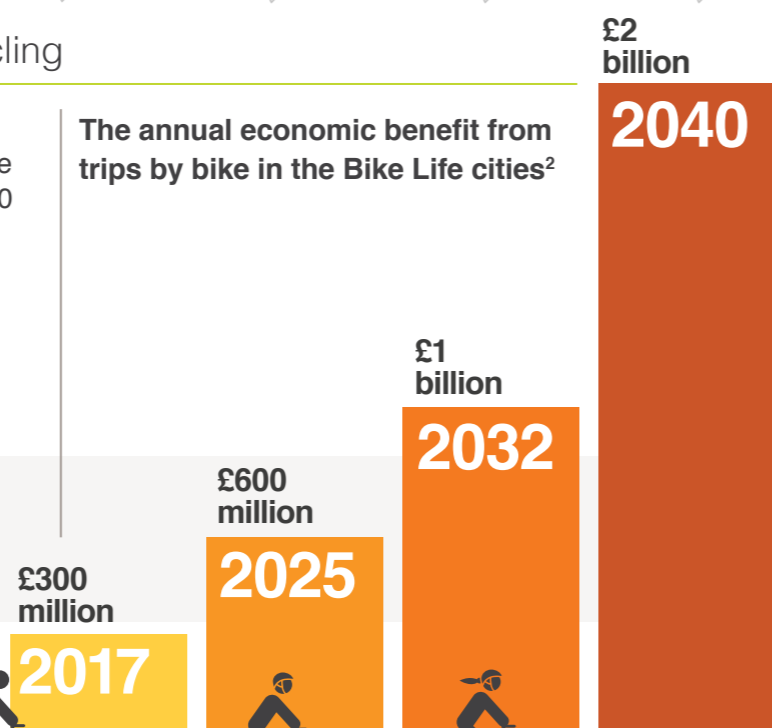
over 1 billion trips

would take place. This compares to **1.7 billion trips** by national rail across Great Britain in the year ending March 2016¹.

Overall the total economic benefit between 2017 and 2040 adds up to

£21 billion.

The annual economic benefit from trips by bike in the Bike Life cities²



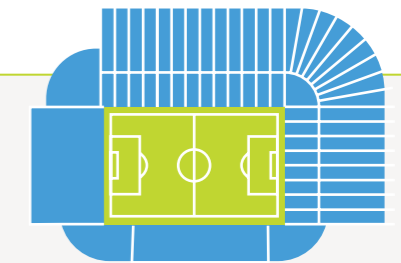
Keeping cities moving

By 2040, our modelling suggests

2 million cycle trips a day

would take place in the seven Bike Life cities, by people that could have used a car.

If these cars were all in a traffic jam it would equate to a distance of **3,110 miles** (this is **2.5x** the length of the UK).



If these cars were to be parked they would need **12km²** of space, the size of over **1,650 football pitches**.



Unlocking significant health benefits

In 2040, additional cycling trips would equate to

over 242 million hours

of physical activity.

The World Health Organisation's Health Economic Assessment Tool (HEAT) estimates the reduction in mortality by cycling as a result of physical activity benefits.

When applied to our model, HEAT suggests cycling could prevent

628 early deaths

in the seven cities in 2040 and every year thereafter from increased physical activity.

Between 2017 and 2040 cycling could avert

34,000 long term health conditions

saving the NHS in the UK

£319 million*

equivalent to the annual salary of **13,481 nurses**

*Based on Sport England MOVES tool which shows the return on investment for health of sport and physical activity.



More people riding bikes reduces pollution and climate change

In 2040,

345,000 tonnes of greenhouse gas emissions

would be saved annually, equivalent to the carbon footprint of **73,000 people**, roughly the population of Chester.

In 2040,

729,000 kg of NOx and 81,000 kg of particulates

would be saved annually by removing **2 million cars** from our roads every day.

Is doubling city cycling in eight years realistic?

We wanted to base our modelling assumptions on ambitious levels of improvement whilst also ensuring they are achievable. Based on two of the cities involved in Bike Life, whilst not easy, this is possible.

Between 2001 and 2011 Bristol almost doubled the amount of people who cycle to work to 7.6%³. Over the same timeframe the number of women cycling in the city doubled from 2.3% to 4.6%³. Additionally, the levels of people cycling to work in Cardiff have doubled over the last eight years.

However some cities have gone much further. Between 2006 and 2012 Seville increased the number cycling journeys each day from under 5,000 to a whopping 72,000 – this represents a ten-fold increase⁴.

3. Bristol City Council, 2015. Bristol Cycle Strategy. 4. London Cycling Campaign, 2012. Cycling increased tenfold in Seville after construction of miles of bike tracks



Belfast in 2040

The potential benefits from cycling



Belfast's pathway to everyday cycling

If Belfast increased cycling between now and 2040, the impact on health, the economy and the environment would be substantial.

Based on our model of doubling cycling trips approximately every eight years, cycling trips on average in Belfast would increase from **0.4** to **3.0 trips** per person each week.

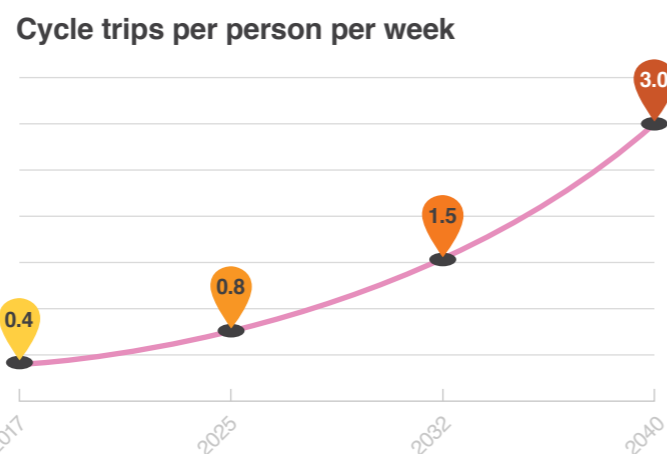


Photo: Brian Morrison



Keeping your city moving

In 2040, our modelling suggests

115,000 cycle trips a day

would take place in Belfast, by people that could have used a car.

If these cars were all in a traffic jam it would equate to a distance of **172 miles**.



If these cars were to be parked they would take up the space of almost **64 Belfast City Hall grounds**.



Unlocking significant health benefits

When applied to our model, HEAT² suggests cycling could prevent

31 early deaths

in Belfast in 2040 and every year thereafter from increased physical activity.

Between 2017 and 2040, cycling could avert

1,600 long term health conditions

saving the NHS in Belfast **£15 million*** equivalent to the annual salary of **634 nurses**

*Based on Sport England MOVES tool which shows the return on investment for health of sport and physical activity.



More people riding bikes reduces pollution and climate change

In 2040,

20,000 tonnes of greenhouse gas emissions

would be saved annually, equivalent to the carbon footprint of **4,000 people**.

In 2040,

41,000 kg of NOx and 5,000 kg of particulates

would be saved annually by removing **115,000 cars** from our roads every day.



The economic benefit from cycling

In 2017 it was estimated that **6.7 million trips** were made by bike in Belfast. Using our methodology, in 2040, almost

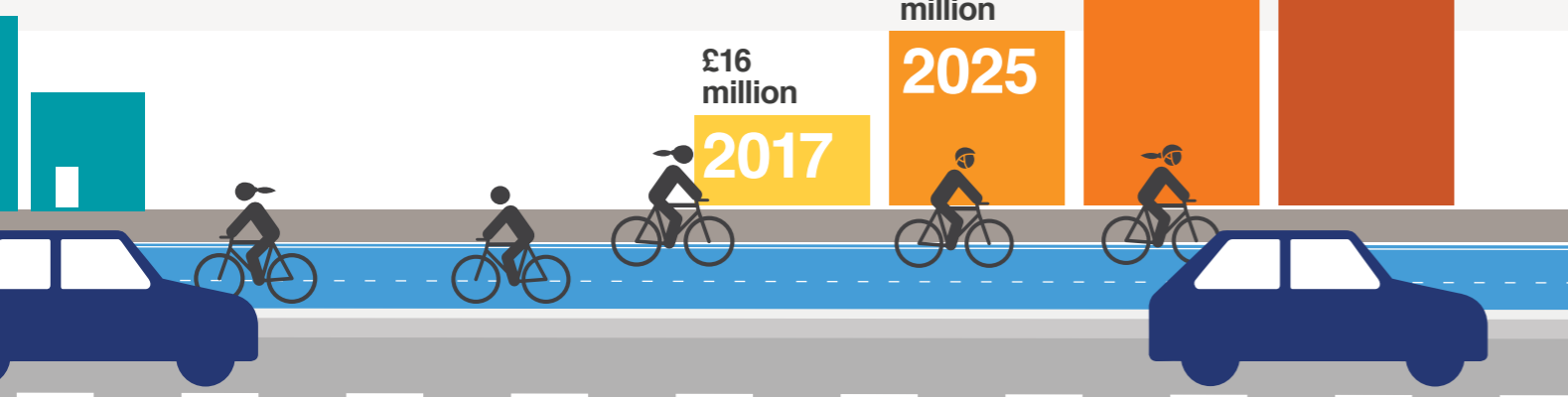
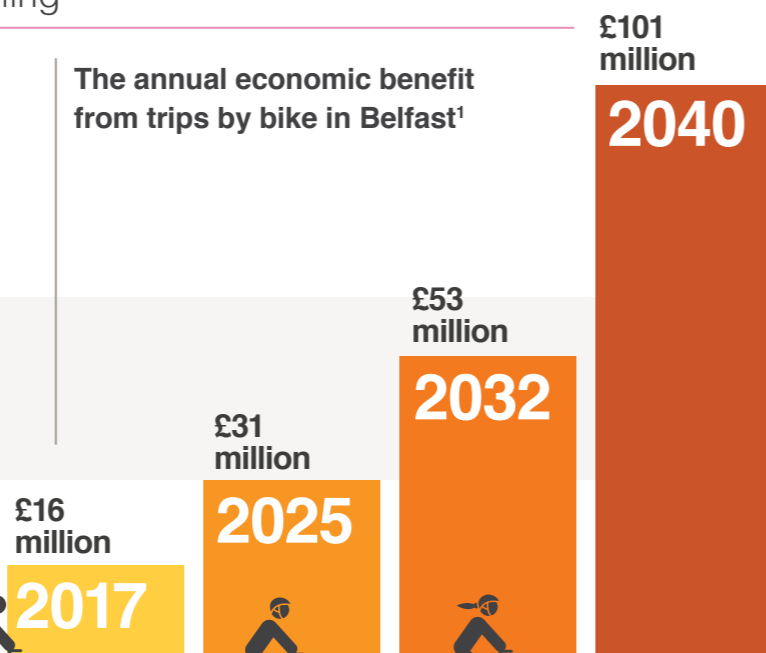
56 million bike trips

would take place in Belfast.

In Belfast, the total economic benefit between 2017 and 2040 adds up to

£1.1 billion.

The annual economic benefit from trips by bike in Belfast¹



Northern Ireland Changing Gear – a Bicycle Strategy for Northern Ireland

Northern Ireland's Bicycle Strategy sets out 2040 ambitions for:

- 40% of all journeys less than 1 mile, to be cycled
- 20% of all journeys between 1 and 2 miles, to be cycled
- 10% of all journeys between 2 and 5 miles, to be cycled

These ambitions are broadly in-line with the modeling presented above.

Belfast, as the capital and most populated urban area in Northern Ireland, has a leading role to play in achieving and benefiting from this ambition.



2. Based on WHO/Europe Health Economic Assessment Tool (HEAT) which enables an economic assessment of the health benefits of cycling by estimating the value of reduced mortality resulting from specified amounts of cycling.

1. The values are made up of the value of purposeful trips cycled by people without access to a car, plus the value of leisure cycle trips made by everyone.



Birmingham in 2040

The potential benefits from cycling



Birmingham's pathway to everyday cycling

There is significant benefit to our health, the environment and the economy from Birmingham increasing cycling between now and 2040.

Based on our model of doubling cycling trips approximately every eight years, cycling trips on average in Birmingham would increase from **0.3** to **2.7 trips** per person each week.

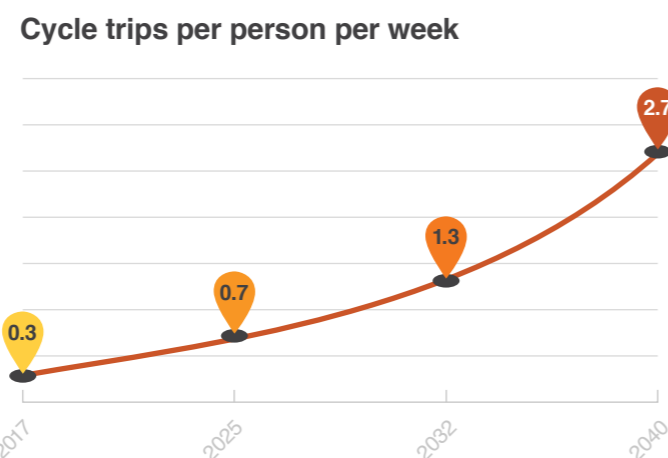


Photo: Jan Bewley/photajb

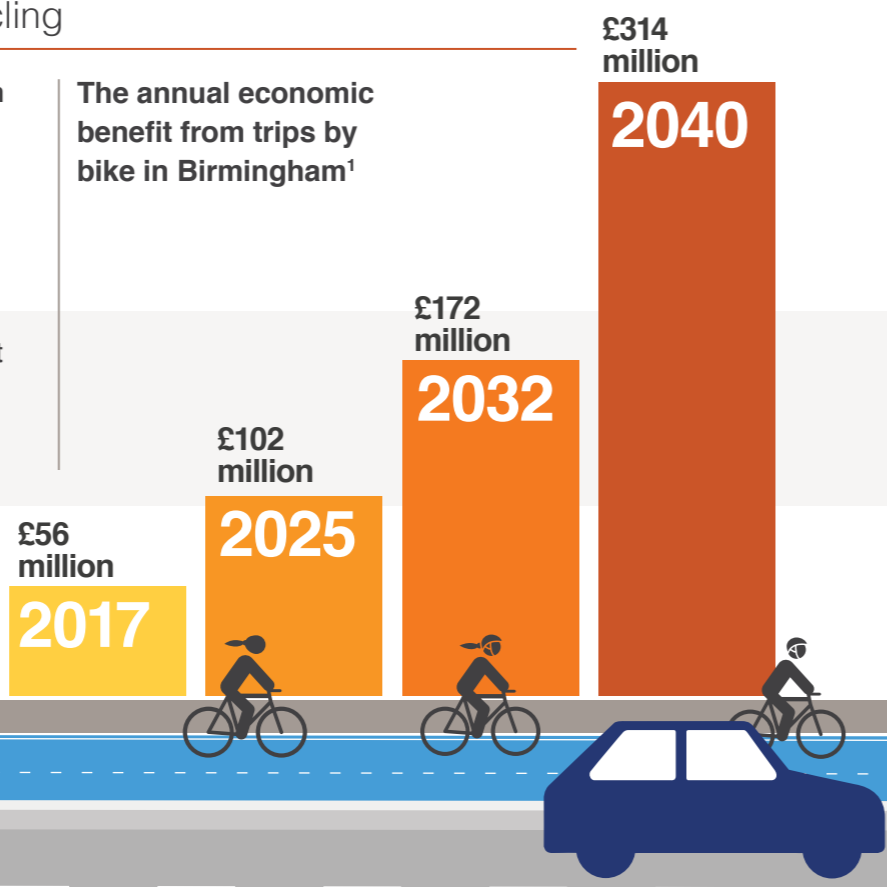


The economic benefit from cycling

In 2017 it was estimated that **19.5 million trips** were made by bike in Birmingham. Using our methodology, in 2040, over **184 million bike trips** would take place in Birmingham.

In Birmingham, the total economic benefit between 2017 and 2040 adds up to **£3.6 billion.**

The annual economic benefit from trips by bike in Birmingham¹



Keeping your city moving

In 2040, our modelling suggests

273,000 cycle trips a day

would take place in Birmingham, by people that could have used a car.

If these cars were all in a traffic jam it would equate to a distance of **407 miles.**



If these cars were to be parked they would take up the space of almost **118 Birmingham cathedral grounds**



Unlocking significant health benefits

When applied to our model, HEAT² suggests cycling could prevent

89 early deaths

in Birmingham in 2040 and every year thereafter from increased physical activity.

Between 2017 and 2040 cycling could avert

5,200 long term health conditions

saving the NHS in Birmingham **£49 million*** equivalent to the annual salary of **2,071 nurses**

*Based on Sport England MOVES tool which shows the return on investment for health of sport and physical activity.



More people riding bikes reduces pollution and climate change

In 2040,

38,000 tonnes of greenhouse gas emissions

would be saved annually, equivalent to the carbon footprint of **8,000 people.**

In 2040,

83,000 kg of NOx and 9,000 kg of particulates

would be saved annually by removing **273,000 cars** from our roads every day.

The West Midlands Cycling Charter

Birmingham sits at the heart of the West Midlands region. Together with our other West Midlands' partner local authorities and Transport for West Midlands a Cycling Charter was developed in 2014.

Through the charter we want to raise levels of cycling across the West Midlands metropolitan area to 5% of all trips by 2023. This represents a 400% increase in cycling journeys from the 1% baseline.

This will be achieved through four principles: leadership and raising the profile of cycling, cycling network development, promoting cycling, and securing investment.



1. The values are made up of the value of purposeful trips cycled by people without access to a car, plus the value of leisure cycle trips made by everyone.

2. Based on WHO/Europe Health Economic Assessment Tool (HEAT) which enables an economic assessment of the health benefits of cycling by estimating the value of reduced mortality resulting from specified amounts of cycling.



Bristol in 2040

The potential benefits from cycling



Bristol's pathway to everyday cycling

Based on our model of doubling cycling trips approximately every eight years, cycling trips on average in Bristol would increase from **1.1** to **8.9 trips** per person each week.

This would give Bristol a modal share for cycling similar to that of leading cycling cities like Copenhagen and Amsterdam.

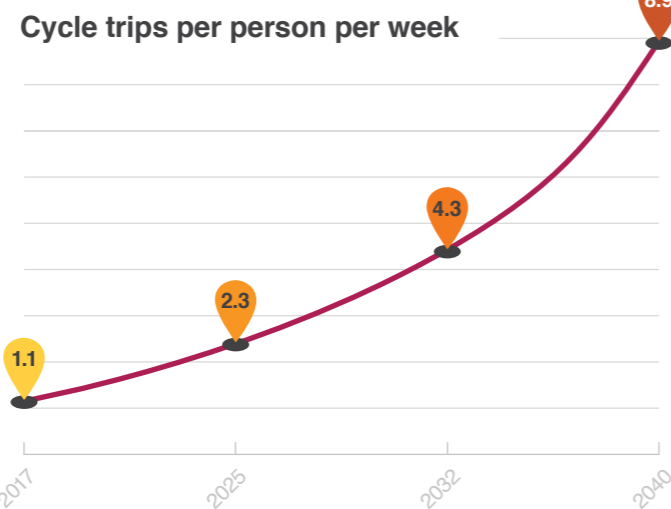


Photo: Jan Bewley/photo123



The economic benefit from cycling

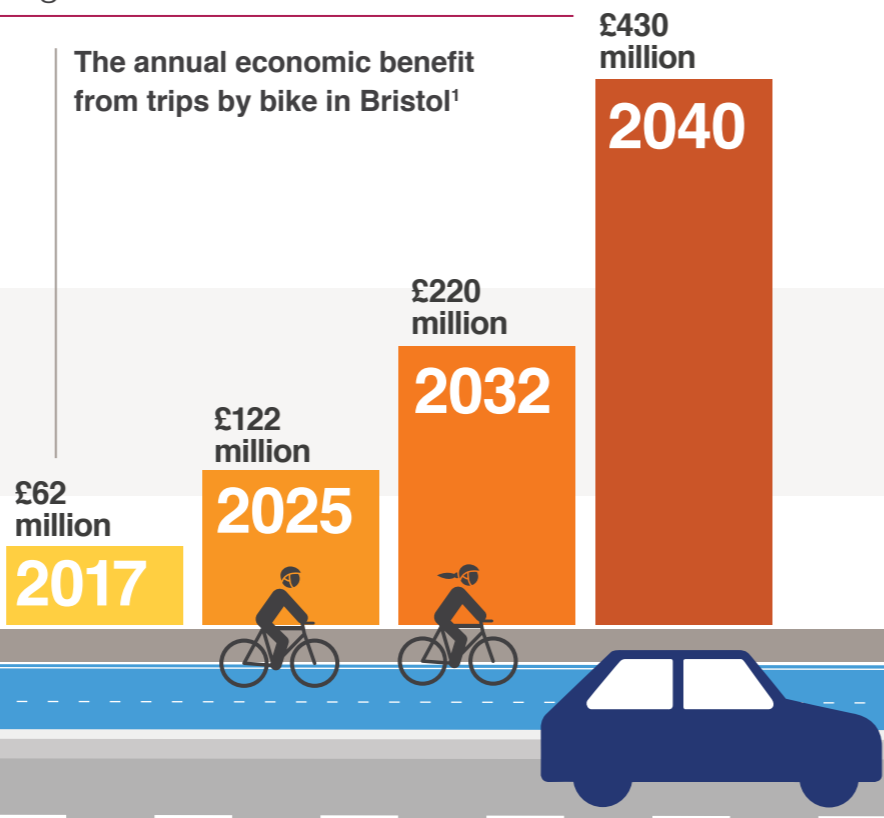
In 2017 it was estimated that **26.1 million trips** were made by bike in Bristol. Using our methodology, in 2040, almost

255 million bike trips would take place in Bristol.

In Bristol, the total economic benefit between 2017 and 2040 adds up to

£4.6 billion.

The annual economic benefit from trips by bike in Bristol¹



Keeping your city moving

In 2040, our modelling suggests

479,000 cycle trips a day

would take place in Bristol, by people that could have used a car.

If these cars were all in a traffic jam it would equate to a distance of **715 miles.**



If these cars were to be parked they would take up the space of over **53 Castle Parks**



Unlocking significant health benefits

When applied to our model, HEAT² suggests cycling could prevent

147 early deaths

in Bristol in 2040 and every year thereafter from increased physical activity.

Between 2017 and 2040 cycling could avert

6,000 long term health conditions

saving the NHS in Bristol **£56 million*** equivalent to the annual salary of **2,367 nurses**

*Based on Sport England MOVES tool which shows the return on investment for health of sport and physical activity.



More people riding bikes reduces pollution and climate change

In 2040,

73,000 tonnes of greenhouse gas emissions

would be saved annually, equivalent to the carbon footprint of **16,000 people.**

In 2040,

157,000 kg of NOx and 18,000 kg of particulates

would be saved annually by removing **479,000 cars** from our roads every day.

Draft Bristol Transport Strategy

Bristol City Council recently developed its draft Transport Strategy. It presents a vision for Bristol to be a well-connected city that enables people to move around efficiently with increased transport options that are accessible and inclusive to everyone.

It recognises the transport challenges facing the city, not least managing the demand on the road network to ease congestion whilst making space and improving safety for walking, cycling and public transport.

Bristol demonstrated it is possible for a city to double cycling in ten years, Bristol needs to continue this momentum to ensure we meet future goals, not least improving air quality and our plans to become carbon neutral by 2030.



2. Based on WHO/Europe Health Economic Assessment Tool (HEAT) which enables an economic assessment of the health benefits of cycling by estimating the value of reduced mortality resulting from specified amounts of cycling.

1. The values are made up of the value of purposeful trips cycled by people without access to a car, plus the value of leisure cycle trips made by everyone.



Cardiff in 2040

The potential benefits from cycling



Cardiff's pathway to everyday cycling

There is huge potential benefit to our health, the environment and the economy if cycling increases between now and 2040.

Based on our model of doubling cycling trips approximately every eight years, cycling trips on average in Cardiff would increase from **0.7** to **5.2 trips** per person each week.

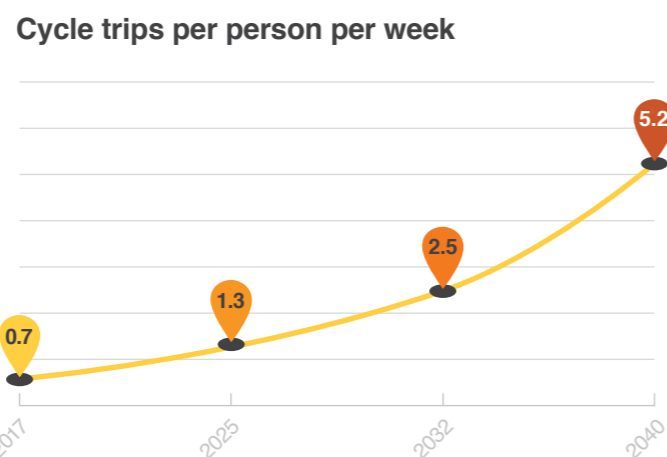


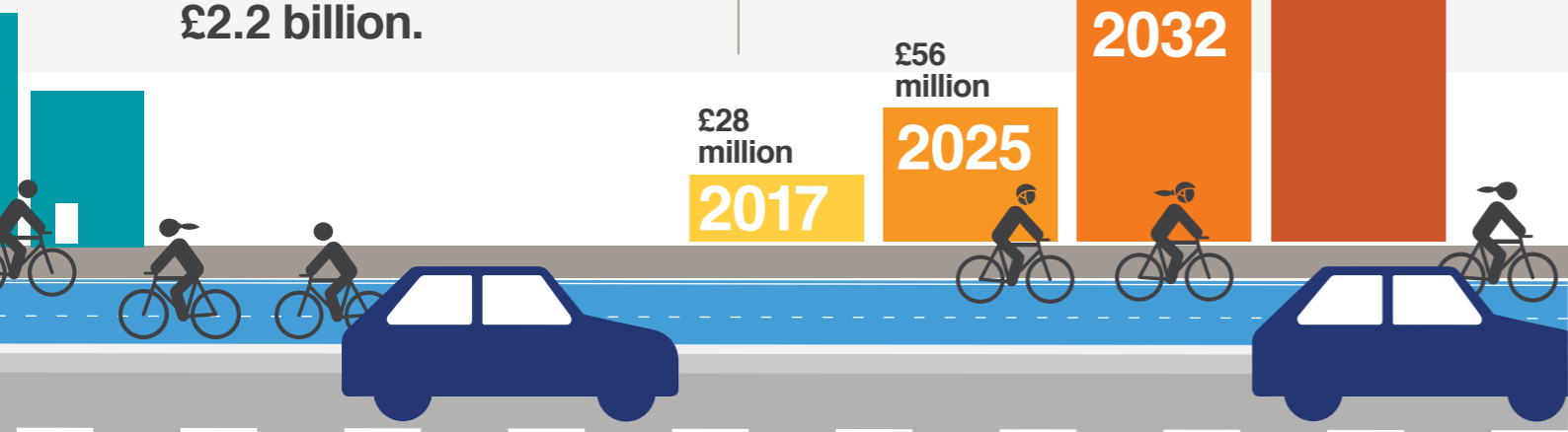
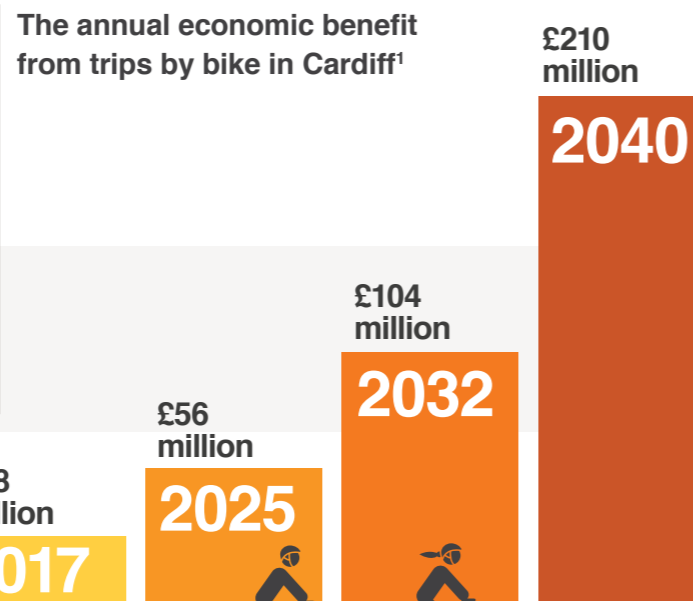
Photo: Jan Bewley/photaiab



The economic benefit from cycling

In 2017 it was estimated that **12.1 million trips** were made by bike in Cardiff. Using our methodology, in 2040, almost **122 million bike trips** would take place in Cardiff.

In Cardiff, the total economic benefit between 2017 and 2040 adds up to **£2.2 billion.**



Keeping your city moving

In 2040, our modelling suggests **221,000 cycle trips a day** would take place in Cardiff, by people that could have used a car.

If these cars were all in a traffic jam it would equate to a distance of **330 miles.**



If these cars were to be parked they would take up the space of over **16 Victoria Parks** (Canton)



Unlocking significant health benefits

When applied to our model, HEAT² suggests cycling could prevent **68 early deaths** in Cardiff in 2040 and every year thereafter from increased physical activity.

Between 2017 and 2040 cycling could avert **3,500 long term health conditions** saving the NHS in Cardiff **£33 million*** equivalent to the annual salary of **1,395 nurses**

*Based on Sport England MOVES tool which shows the return on investment for health of sport and physical activity.



More people riding bikes reduces pollution and climate change

In 2040, **30,000 tonnes of greenhouse gas emissions** would be saved annually, equivalent to the carbon footprint of **6,000 people.**

In 2040, **66,000 kg of NOx and 7,000 kg of particulates** would be saved annually by removing **221,000 cars** from our roads.

Keeping Cardiff Moving

Cardiff is the UK's fastest growing city and our population is projected to grow by 20% between 2018 and 2038. In order to manage this growth our target is for 50% of all trips to be made by walking, cycling or public transport by 2026.

Levels of cycling to work have already doubled in Cardiff over the last 8 years, however we need to continue this trend if we are to fully realise the economic and health benefits of cycling, meet the challenges of growth, air quality and climate change and ensure that Cardiff remains a great city to live in.



1. The values are made up of the value of purposeful trips cycled by people without access to a car, plus the value of leisure cycle trips made by everyone.

2. Based on WHO/Europe Health Economic Assessment Tool (HEAT) which enables an economic assessment of the health benefits of cycling by estimating the value of reduced mortality resulting from specified amounts of cycling.



Edinburgh in 2040

The potential benefits from cycling



Edinburgh's pathway to everyday cycling

Based on our model of doubling cycling trips approximately every eight years, cycling trips on average in Edinburgh would increase from **0.6** to **4.7** trips per person each week.

The resulting benefits for health, the economy and the environment of this rise would be staggering for Edinburgh.

Cycle trips per person per week

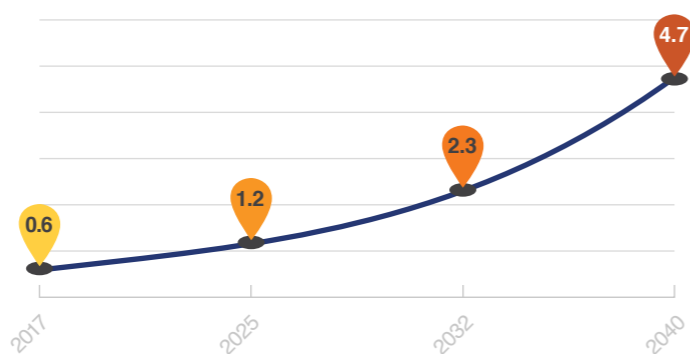


Photo: Colin Hattersley



Keeping your city moving

In 2040, our modelling suggests

226,000 cycle trips a day

would take place in Edinburgh, by people that could have used a car.

If these cars were all in a traffic jam it would equate to a distance of **336 miles**.



If these cars were to be parked they would take up the space of over **9 Princes Street Gardens**



Unlocking significant health benefits

When applied to our model, HEAT² suggests cycling could prevent

85 early deaths

in Edinburgh in 2040 and every year thereafter from increased physical activity.

Between 2017 and 2040 cycling could avert

4,400 long term health conditions

saving the NHS in Edinburgh **£42 million*** equivalent to the annual salary of **1,775 nurses**

*Based on Sport England MOVES tool which shows the return on investment for health of sport and physical activity.



More people riding bikes reduces pollution and climate change

In 2040,

47,000 tonnes of greenhouse gas emissions

would be saved annually, equivalent to the carbon footprint of **10,000 people**.

In 2040,

96,000 kg of NOx and 11,000 kg of particulates

would be saved annually by removing **226,000 cars** from our roads every day.



The economic benefit from cycling

In 2017 it was estimated that **15.3 million** trips were made by bike in Edinburgh. Using our methodology, in 2040, over

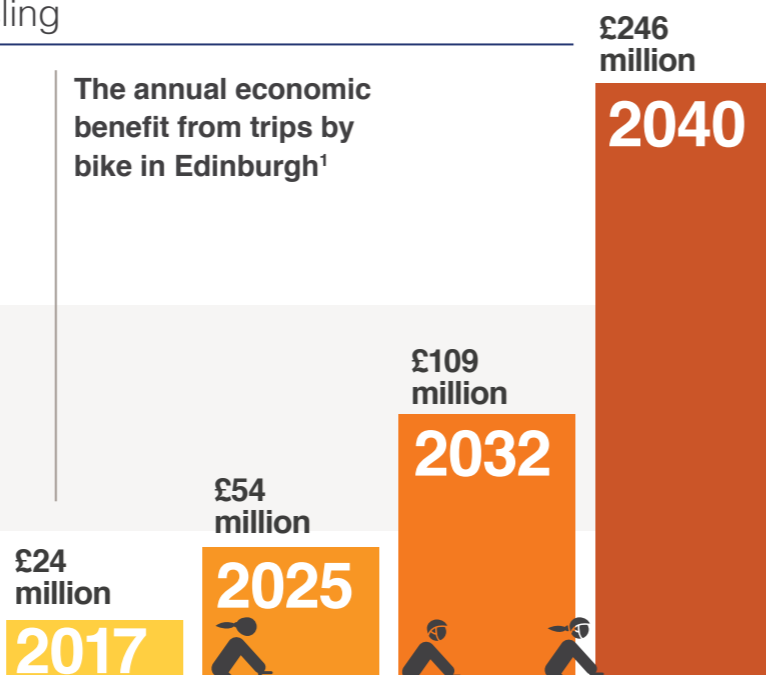
146 million bike trips

would take place in Edinburgh.

In Edinburgh the total economic benefit between 2017 and 2040 adds up to

£2.3 billion.

The annual economic benefit from trips by bike in Edinburgh¹



Edinburgh: Connecting our City, Transforming our Places

The City of Edinburgh Council is currently developing three simultaneous strategies to reshape the city for future generations: Edinburgh City Centre Transformation, the City Mobility Plan and plans for Low Emission Zones.

Making cycling a normal, everyday activity has an important role in all three of these inter-related projects. Alongside walking and public transport, cycling has the potential to shape and improve how people move around our city in the future.

This transformation will also improve the health and liveability of neighbourhood streets, and the civic, cultural and economic vibrancy of Edinburgh's city centre.



1. The values are made up of the value of purposeful trips cycled by people without access to a car, plus the value of leisure cycle trips made by everyone.

2. Based on WHO/Europe Health Economic Assessment Tool (HEAT) which enables an economic assessment of the health benefits of cycling by estimating the value of reduced mortality resulting from specified amounts of cycling.



Greater Manchester in 2040

The potential benefits from cycling



Greater Manchester's pathway to everyday cycling

Based on our model of doubling cycling trips approximately every eight years, cycling trips on average in Greater Manchester would increase from **0.2** to **1.9 trips** per person each week.

Greater Manchester is on a journey to transform cycling and walking across the region and realise the potential benefit for society and the economy.

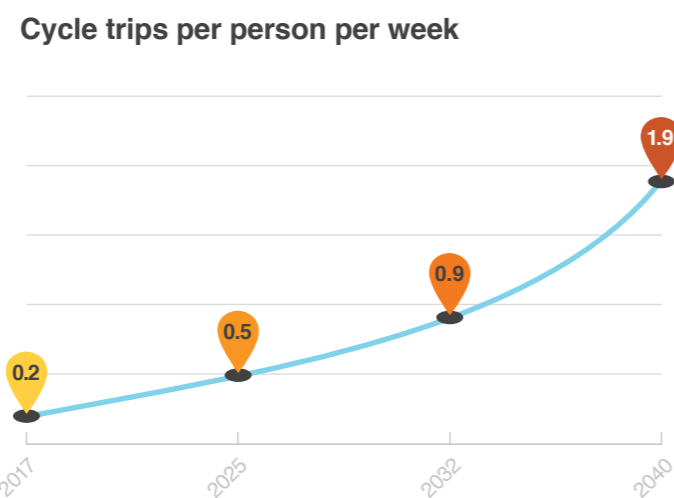


Photo: Livia Lazar



The economic benefit from cycling

In 2017 it was estimated that **34.8 million trips** were made by bike in Greater Manchester. Using our methodology, in 2040, over

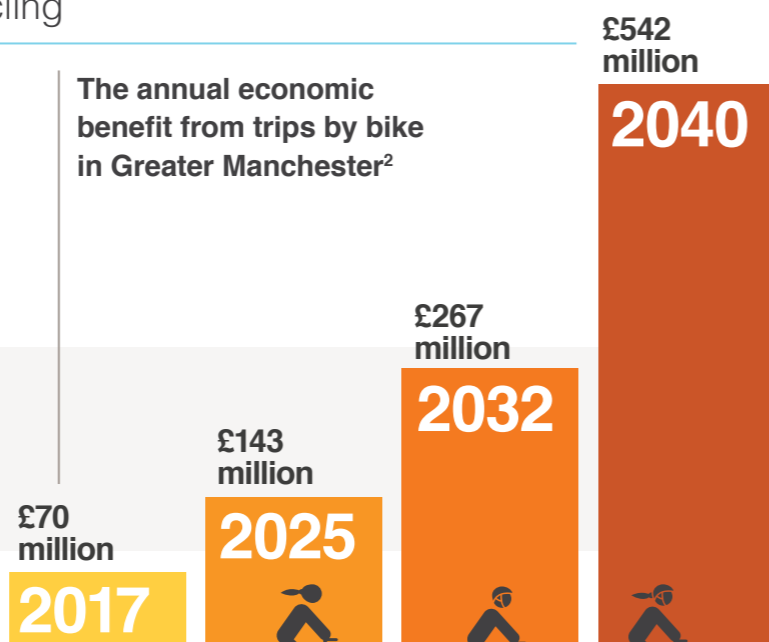
313 million bike trips

would take place in Greater Manchester.

In Greater Manchester the total economic benefit between 2017 and 2040 adds up to

£5.6 billion.

The annual economic benefit from trips by bike in Greater Manchester²



1. The values are made up of the value of purposeful trips cycled by people without access to a car, plus the value of leisure cycle trips made by everyone.



Keeping your city moving

In 2040, our modelling suggests

646,000 cycle trips a day

would take place in Greater Manchester, by people that could have used a car.

If these cars were all in a traffic jam it would equate to a distance of **964 miles.**



If these cars were to be parked they would take up the space of over **40 Whitworth Parks**



Unlocking significant health benefits

When applied to our model, HEAT² suggests cycling could prevent

168 early deaths

in Greater Manchester in 2040 and every year thereafter from increased physical activity.

Between 2017 and 2040 cycling could avert

11,300 long term health conditions

saving the NHS in Greater Manchester **£106 million*** equivalent to the annual salary of **4,480 nurses**

*Based on Sport England MOVES tool which shows the return on investment for health of sport and physical activity.



More people riding bikes reduces pollution and climate change

In 2040,

123,000 tonnes of greenhouse gas emissions

would be saved annually, equivalent to the carbon footprint of **26,000 people.**

In 2040,

253,000 kg of NOx and 28,000 kg of particulates

would be saved annually by removing **646,000 cars** from our roads every day.

Our ambition for cycling

Greater Manchester has big ambitions for both walking and cycling.

Greater Manchester has a vision to become the very first city region in the UK to have a fully joined up cycling and walking network; the most comprehensive in Britain covering 1,000 miles.

£160m initially is being invested in walking and cycling across the region to develop a network of cycle routes both on quiet roads and on main roads by providing dedicated space through segregation. This will be complemented by filtered neighbourhoods where the movement of people is prioritised over the movement of vehicles.



2. Based on WHO/Europe Health Economic Assessment Tool (HEAT) which enables an economic assessment of the health benefits of cycling by estimating the value of reduced mortality resulting from specified amounts of cycling.



Newcastle in 2040

The potential benefits from cycling



Newcastle's pathway to everyday cycling

The total benefit to our health, the environment and the economy from Newcastle increasing cycling between now and 2040 is staggering.

Based on our model of doubling cycling trips approximately every eight years, cycling trips on average in Newcastle would increase from **0.6** to **4.6 trips** per person each week.

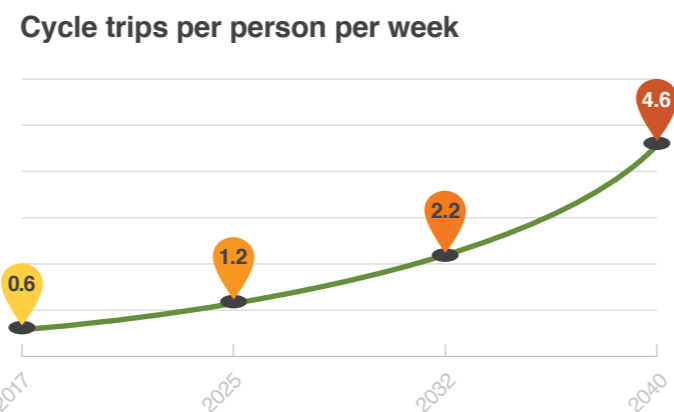


Photo: Chris Foster



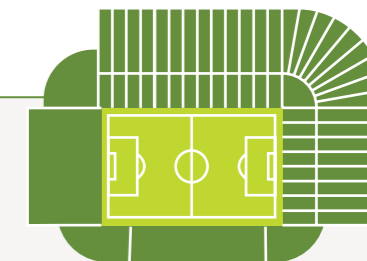
Keeping your city moving

In 2040, our modelling suggests

125,000 cycle trips a day

would take place in Newcastle, by people that could have used a car.

If these cars were all in a traffic jam it would equate to a distance of **186 miles**.



If these cars were to be parked they would take up the space of over **100 St James' Park pitches**



Unlocking significant health benefits in Newcastle

When applied to our model, HEAT² suggests cycling could prevent

40 early deaths

in Newcastle in 2040 and every year thereafter from increased physical activity.

Between 2017 and 2040 cycling could avert

2,100 long term health conditions

saving the NHS in Newcastle **£20 million*** equivalent to the annual salary of **845 nurses**

*Based on Sport England MOVES tool which shows the return on investment for health of sport and physical activity.



More people riding bikes reduces pollution and climate change

In 2040,

14,000 tonnes of greenhouse gas emissions

would be saved annually, equivalent to the carbon footprint of **3,000 people**.

In 2040,

33,000 kg of NOx and 4,000 kg of particulates

would be saved annually by removing **125,000 cars** from our roads every day.



The economic benefit from cycling

In 2017 it was estimated that **8.8 million trips** were made by bike in Newcastle. Using our methodology, in 2040, almost

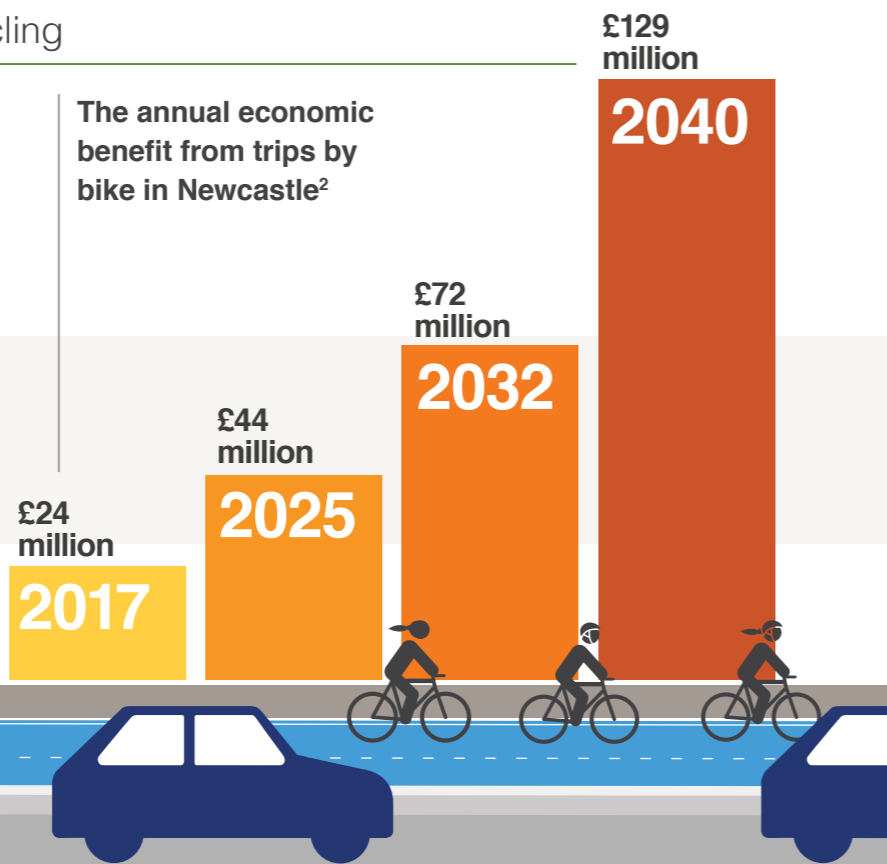
79 million bike trips

would take place in Newcastle.

In Newcastle the total economic benefit between 2017 and 2040 adds up to

£1.5 billion.

The annual economic benefit from trips by bike in Newcastle²



Realising the benefits of cycling in Newcastle

Newcastle aims to work with regional partners over the next 20 years to:

- Build a network of attractive, good quality, safe urban and rural cycle routes, integrated with transport hubs, workplaces, shopping, leisure and education sites.
- Improve existing streets and junctions to support cycling, including reallocating road space.
- Establish cycle-friendly standards for neighbourhoods, towns and city centres.
- Continue to promote cycling as a positive, sustainable way of improving health and well-being.
- Continue to reduce cycling casualty rates by improving road safety.



1. The values are made up of the value of purposeful trips cycled by people without access to a car, plus the value of leisure cycle trips made by everyone.

2. Based on WHO/Europe Health Economic Assessment Tool (HEAT) which enables an economic assessment of the health benefits of cycling by estimating the value of reduced mortality resulting from specified amounts of cycling.

Transforming cities

Making cycling a normal everyday activity for everyone

Cities both globally and in the UK have demonstrated it is possible to double the number of cycling trips within eight years. To achieve this cities must show bold leadership, backed up by funding and delivery.



Leadership, strategy and investment

- Political commitment exists alongside ambitious plans and long-term investment
- Commitment exists to make cycling inclusive, safe and attractive to everyone
- Progress is monitored and communicated

Examples

- In 2015, Oslo announced it wanted to make the city centre free of private cars whilst at the same time improving cycling provision
- Greater Manchester is spending 66% of its Transforming Cities transport funding on walking and cycling



High quality network

- Comprehensive high-quality cycling network in place including: protected key corridor routes, off road routes, and local routes on low trafficked and low speed streets

Examples

- Copenhagen has 230 miles of fully protected bike lanes
- Paris recently converted a congested expressway along the River Seine to a space to walk and cycle and enjoy
- Belfast's Comber and Connswater Greenways provide a scenic and important off road link across the East of the city



Places are designed for people and vehicle use managed

- Local neighbourhoods designed based on the needs of people, including traffic restraint measures that make it easier to cycle than drive for short journeys

Examples

- Utrecht has the longest 'cycle street' (6km) where walking and cycling is prioritised and cars are seen as guests in the Netherlands
- It is cheaper and quicker to travel by bike than drive in the centre of Cambridge



Engagement of people and organisations to build support

- Working with residents the benefits of a 'liveable', 'healthy' walkable and cyclable city are demonstrated
- High quality flagship schemes developed to show success and build support for future changes
- Businesses are supported to transport goods by cargo bike

Examples

- In Birmingham 2,000 bikes were given away to people from poorer areas, alongside cycle training and led rides
- In Greater Manchester the Oxford-Wilmslow Road protected cycle scheme demonstrated cycling's potential and helped pave the way for new funding
- In Copenhagen 25% of all families with two children own a cargo bike
- We are witnessing a transition in food delivery across the UK to cycles
- DHL's last mile delivery system uses 10,500 e-cargo-bikes in Germany



People are supported to change travel behaviours

- Programmes with specific demographic groups to build confidence and skills, linked to changes in infrastructure
- A city-wide bike share programme exists
- Programmes exist to support all residents (not just those employed) to access bikes, including e-bikes and adapted bikes

Examples

- Cities across the UK are closing streets to traffic during school drop off and pick up times to improve safety, air quality and encourage walking and cycling
- Let's Ride is a series of 14 mass participation cycling events in UK cities where streets are closed to traffic for the day
- London's Santander Bike Scheme registered over 10 million trips in 2016
- Vienna provides subsidies to citizens who wish to purchase a cargo bike



Cycling is fully integrated with public transport, homes and work

- Cycling and public transport are joined up to enable sustainable longer journeys end to end
- Cycling infrastructure and secure storage is designed into homes, workplaces and other destinations to enable convenient door to door journeys

Examples

- Utrecht has the largest station cycle park in the world with space for 12,500 bikes
- In Tokyo 20% of the area's 20 million rail commuters cycle to the station
- Waltham Forest has installed 225 on-street bike hangers across the borough for residents to park their bikes securely



Seville – A ten-fold increase in cycling in six-years

Since 2006 Seville has increased the modal share of cycling from less than 0.5% to around 7%. This increase was the outcome of designing and implementing an 80-mile Dutch-style network of well-connected cycle tracks and a 2,500-bike hire scheme. What's even more remarkable is that the basic network (50 miles) was made in just one year, and the first extension (up to 80 miles) developed in the following three years.

Fundamental to Seville's success was political will.

The designers behind the scheme were sceptical of waiting to see if cycling would take off in Seville by just delivering one or two isolated bike paths before progressing to other routes. Evidence from other cities often shows isolated cycle paths never achieve their potential if they are not connected, making a network from the beginning. This runs the risk of people not using them and the political support beginning to dwindle.

Photos: Tim Burns



Oslo – Creating a car-free city centre

The Seville approach of having a 'grand-plan' and delivering this quickly has started to spread elsewhere, for example Oslo and Greater Manchester.

Research in 2013 showed that only 8% of everyday travel in Oslo was made by bike. Resident surveys suggested only 9% of residents experience cycling in Oslo as safe whilst 94% of residents were in favour of developing the city for bikes.

In 2015 Oslo announced it wanted to make the city centre free of private cars by 2019 whilst at the same time beginning an ambitious programme to improve cycling provision.

Oslo is looking to develop 510km of cycle infrastructure over the next ten years to increase cycle modal share to 16%. Oslo is currently spending around €140m on cycling each year, possibly more than any other similar sized city worldwide.



Methodology

Modelling cycling to 2040

This document has estimated some of the benefits that would result if levels of cycling double every eight years between 2017 and 2040, incorporating the projected growth of the population of these cities.

Using these projected levels of cycling in 2040, we use the Societal Gain Model from Bike Life 2017 and Sport England's MOVES tool to estimate the associated benefits.

We also estimate what the other inputs to the tools might look like in 2040. In some cases however, inputs are replicated between 2017 and 2040, typically because there is not enough evidence to make a robust case for revising the values.

- It is assumed that the growth in the number of cycle trips will result from some new cyclists and some existing cyclists making more trips. The number of people cycling is assumed to grow threefold between 2017 and 2040.
- It is assumed that, as cycling becomes more popular for everyday trips, average trip length will fall. Using data from the National Travel Survey and DfT's WebTAG we assume that, on average, trips in 2040 will be 3.5 kilometres long.
- The volume of pollutants emitted by motorised vehicles are unlikely to remain static between 2017 and 2040. The government projects that greenhouse gas emissions from the transport sector will have fallen by 12% by 2035*. We therefore assume that car emissions will have fallen by the same amount by 2040.

Using these inputs we estimate the benefits of the envisioned levels of cycling in 2040. We then interpolate between the 2017 and 2040 figures to estimate the benefits for the intervening years.

Because of the nature of the MOVES tool a different method was employed. This estimates the impact of increased levels of cycling on different cohorts over different time horizons. Individuals who begin to make more cycle trips soon after 2017 deliver greater savings to the NHS than those who begin cycling closer to 2040.

Photo: Brian Morrison

* Department for Business, Energy & Industrial Strategy (2018), Updated energy and emissions projections 2017

Notes on terminology and methodology:

The survey data upon which this publication is based was collected May to July 2017.

Due to the rounding up or down of individual figures, the percentages may not total 100% exactly.

Further details are available at www.sustrans.org.uk/bikelife

Sustrans is the charity making it easier for people to walk and cycle.

We connect people and places, create liveable neighbourhoods, transform the school run and deliver a happier, healthier commute. Join us on our journey. www.sustrans.org.uk

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