Cycle Bedford

E-Bikes the future for towns and cities

Issue 84
July 2019

The Voice of Cycling Campaign for North Bedfordshire

World's First 'All Singing and Dancing' Smart E-Bike

CYCLING CAMPAIGN FOR NORTH BEDFORDSHIRE

Founded 1992

Committee

Chair	Peter Blakeman
Secretary	Carole Blakeman
Treasurer	Neville Hobday
Other members	Colin Last
	vacant
Newsletter Editor	Peter Blakeman

E-mail: ccnb@ccnb.org.uk
Website: http://www.ccnb.org.uk
Promotional website: http://www.cyclebedford.org.uk
@cyclebedford cycle_bedford

Campaigning Representation

CCNB is represented on the following committees:

Bedford Cycle Strategy Group (disbanded July 2018)
Bedford Stations Travel Plan Steering Group
Bedford Hospital Bicycle Users Group

and is a key stakeholder on the preparation and implementation of the:

Bedford Green Wheel
Local Transport Plan (LTP3)

It is affiliated to CYCLENATION (http://www.cyclenation.org.uk)

Bedford Borough Council Contacts:

Cycling and Walking:
Transport Policy Manager - (01234) 228607/e-mail melanie.macleod@bedford.gov.uk
Bikeability (Cycle Training) - (01234) 228336
Highways Helpdesk - (01234) 718003/e-mail highways.helpdesk@bedford.gov.uk

Contents

Editorial

Do you believe in the saying 'What goes around comes around'. Well it is certainly true of bikes even if they are in a slightly different form.

In the late 19th century with the advert of automobiles it was cycle manufacturers who first starting making cars using cycle parts. Today in the early part of the 21st century car manufacturers seeing falling car sales are now turning their attention to cycle manufacture.

It is however not the conventional bicycle of the last 100 years but the exponential rise in electric bikes (known as e-bikes). Although e-bikes are not new it is only in the last few years that they have started to emerge as one of the best forms of sustainable transport to combat traffic congestion, pollution, climate change and the growing health concerns due to inactivity.

This issue of CCNB's newsletter (pages 5-27) is taken up by a review of e-bikes and others forms of micromobility - e-scooters, etc; the latter being currently illegal in this country.

The UK has been lagging behind Europe and many other countries in the take-up of e-bikes but is expected to quickly catch up over the next few years not only as a separate mode but also as part of a multimodal transport system.

E-bikes are great for commuters and extend the distance that can be travelled. They also extend the age at which many conventional cyclists start to think about giving up.

In the form of e-cargo bikes, they are also starting to boom within the end consumer sector, trade and retailers, for last urban mile deliveries.

Although there is a commitment to replace petrol and diesel vehicles by electric cars to reduce pollution they will still suffer from molecular particulate emissions from their brakes and tyres and will not reduce congestion. There are also the environmental concerns of the mining and increasing scarcity of the materials required for batteries and the amount of electricity needed for their recharge.

The three year Public Spaces Protection Order banning cycling in the Bedford's pedestrianised area came to an end in mid May 2019 although it is proposed to continue with a new three year order. An analysis of the April consultation and CCNB's concerns are covered on pages 26 to 28.

An update on the second phase of the rebuilding of the Bromham Road railway bridge is reported on page 30.

CCNB had its AGM in May and in the presentation before the proceedings a number of topics were covered including wheelies, value for money cycle infrastructure and the effects of air pollution on climate change and resident's health (page 32) .

Cover Picture - Cybic E-Bike

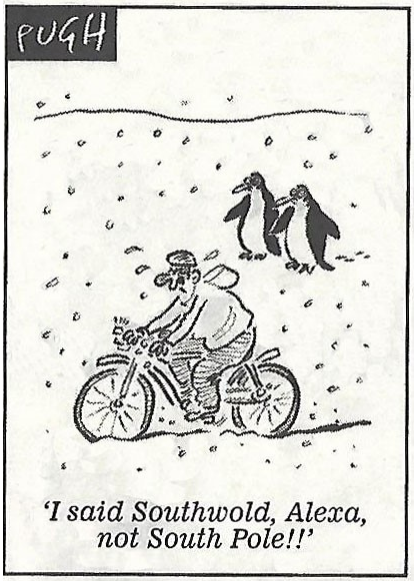
The Cover picture shows the all singing all dancing **Cybic** e-bike which was unveiled at the January 2019 Las Vegas Consumer Electronics Show, the global showcase for new technology.

The world's first connected smart bike was developed in China and is the first one to feature, Alexa, Amazon's voice activated virtual assistant.

This will give voice directions, play music and even order a takeaway for you to collect on the way home. While on the move you can Ask Alexa for the latest traffic updates, weather forecasts, as well as sending messages and creating shopping lists.

The bike also includes an electronic horn and a built in lock controlled by a smart phone app. The touchscreen as well as being a tracking device will send its location to your phone if it is stolen.

The on-board computer which connects to the internet using a Vodaphone SIM card and the mobile phone network, can keep a record of journeys, including speed, altitude and calories burned. It will also develop training programmes so users can measure their performance.



Second Chance Ltd has been given the exclusive European master distribution rights. The bike can be pre-ordered from Halfords from this summer.

For more information see:

https://www.second.co.uk/cybic-smart-bikes-alexa-bike/

Daily Mail cartoon

What is an Electric Bike (E-Bike)

An electric bike (or e-bike) is basically a conventional pedal bike with the addition of an electric motor (see page 17) and a rechargeable battery (see page 16).

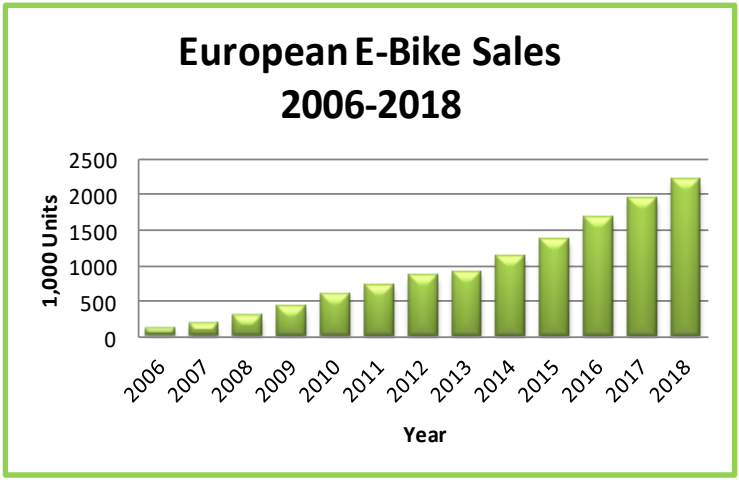
When a cyclist engages the motor it alleviates some of the pressure of pedalling and takes some of the strain out of cycling. When a top speed of 15.5 mph (see regulations page 10) is reached the motor cuts out although the cyclist is still able to cycle faster if necessary

E-Bike Sales

The sales of e-bikes around the world are said to be going 'through the roof' with 2019 predicted to be '**The Year of the E-bike'**.

In many European countries - Germany, the Netherlands, and Austria and other cycling nations - e-bikes now account in value for over half the adult bike market with one in every three bikes sold being of this type.

E-bikes have been a long time coming to the UK but are now starting to catch up. The emergence of e-bike hire schemes is likely to provide a stimulus to the burgeoning e-bike market. For major retailers and dealers this is now the fastest growing product.



2018 E-Bike Statistics

UK	70,000 up 12% over 2017
Germany	980,000 up 36%
Netherlands	409,400 up 35%
Austria	150,000 up 33%

History of E-Bikes

Electric bicycles are not new The idea for such a bike has been around almost since the bicycle was developed.

Frenchman Gustav Trouvé is credited in 1881 with inventing the first electric bike which was actually a tricycle with only a few watts of electricity, so it didn't give riders much of a boost.

The first US patent was granted in 1895 to Ogden Bolton Jr for a rear hub motor electric powered bicycle, only to be topped two years later by Hosea W.Libbey of Boston. Libbey patented a crank based motor system. Today's Bosch drive system and Shimano STEPS use the same principles.

However the potential of e-bikes was not taken up until 1989 when the Swiss Michael Kutter created the Pedelec. Riders no longer needed to use a direct throttle control, instead pedalling caused the motor to kick in and assist the rider.

A year later e-bikes were propelled into the modern world with lower weight lithium batteries, quieter and more efficient motors, and more effective torque sensors.

1985 Sinclair C5 - e-tricycle (car)

1992 Sinclair Zike portable e-bike

One of the first e-bikes developed in the early 1990s was the Sinclair Zike bike marketed as a lightweight and portable e-bike. Like the earlier Sinclair C5 electric car It was a commercial failure and was criticised for lacking power and being too unstable.

By the early 2000s batteries used in electric bikes became lighter and more efficient and in 2004 electric bike production was reported to have grown by 35% in less than 10 years.

E-bikes in the future are expected to become even more lightweight with cleaner designs, more power and further battery improvements.

Why an E-Bike?

E-bikes, variously called electric bikes, pedelecs and electric-assist bikes, combine a fairly conventional bike with a battery and motor that helps out when you're pedalling to make it easier to get up hills, accelerate away from lights and cruise along.

The reduction in effort required to cycle makes them ideal for people of any age or fitness level. The elderly in particular are finding that they can continue to enjoy the freedom of cycling as well as taking longer journeys and ones involving hills. .

In the case of hills, although in the urban area of Bedford there is only Manton Heights, instead of struggling and slowing down and starting to wobble the electric motor helps you to keep up the same speed as on the flat.

At a stop for traffic lights instead of struggling to get up to speed before the vehicle behind overtakes you the power from the motor enables you to get away more safely.

One of the big secrets as to why people buy and ride an e-bike is that ***they are a lot of fun***.

There are many ways of using an e-bike as there are regular bikes.

People are turning to e-bikes because:

- they want to go further or faster than their level of fitness makes them comfortable, or
- they want to haul loads that are difficult on a conventional bike.

Commuters are finding that they can get to their office without ending covered in sweat or they are not as young and fit as they once were but want to stay active.

E-Bike Types

.

E-bikes are significantly more expensive than non e-bikes. Cheaper types built in China are available but are not recommended.

E-bikes are also much heavier (typically 18-25kg versus 10-13kg for a conventional bike) although smaller folding e-bikes are slightly lighter. The higher weight has seen an increase in accidents in the Netherlands particularly with the elderly who have been enticed back to cycling.

Newer models are getting lighter with smaller more efficient batteries and motors hidden inside carbon fibre frames. .

E-bikes are now available as road bikes, off-road bikes, MTBs (mountain bikes) and small wheels folding or non-folding types as well as cargo bikes.

Hybrids/Road Bikes

Hybrids are the most common style as they can be used for commuting, leisure and everyday activities.

The larger wheels and skinnier tyres make them more nippier.

European influence means that many e-bikes have a rack, mudguards and lights.

Low step hybrid

Off-Road

Electric mountain bikes or e-MTBs are extremely popular for tough off-road trails and dirt tracks but with wider tyres and smaller wheels they are also suitable for all round town use (including potholes).

For long distance off-road touring there are also stronger versions of the hybrid type.

Full suspension e-mountain bike

Folding

There many folding e-bikes available but the Brompton version still leads the field see page 17).

Cargo

Electric cargo bikes are ideal for giving the extra power to be able to carry heavier goods than regular types.

As well as the two wheel versions, there are also e-tricycles (see page 19) and quad versions (see page 20).

E-Bike Regulations

An electric bike can be ridden in England, Scotland and Wales if the person is 14 years old or over, as long as it meets certain requirements.

The electric bikes known as 'electrically assisted pedal cycles' (EAPCs) or **Pedelecs** do not need a licence to be able to ride one and do not need to be registered, taxed or insured.

What counts as an EAPC

An EAPC must have pedals that can be used to propel it.
It must show either:

- the power output
- the manufacturer of the motor

It must also show either:

- the battery's voltage
- the maximum speed of the bike

Its electric motor:

- must have a maximum power output of 250 watts
- should not be able to propel the bike when it is more than 15.5mph (25kmh)

An EAPC can have more than 2 wheels (for example, a tricycle).

Where you can ride

If a bike meets the EAPC requirements it is classed as a normal pedal bike. This means you can ride it on cycle paths and anywhere else pedal bikes are allowed.

Other kinds of electric bike

Any electric bike that does not meet the EAPC rules is classed as a motorcycle or moped and needs to be registered and taxed. You will need a driving licence to ride one and you must wear a crash helmet.
The bike must also be type approved. if either:

- it does not meet the EAPC rules
- it can be propelled without pedalling (a 'twist and go' EAPC)

This should have been done by the manufacturer or importer before you bought it. If it has been type approved, it will have a plate showing its type approval number.

Rules in Northern Ireland

In Northern Ireland, you need a moped licence to ride any electric bike and the bike must also be registered, taxed and insured.

Ref: *https://www.gov.uk/electic-bikes-rules*

Future of Mobility

In March 2019 the government issued a report - **Future of Mobility: Urban Strategy** moving Britain ahead.

The document outlines the government's approach to maximising the benefits from transport innovation in cities and towns. It sets out the principles that will guide government's response to emerging transport technologies and business models.

One of the main outcomes is that trials will be carried out with a view to amending the regulations to allow other fast growing forms of micromobility, other than e-bikes, such as e-scooters, e-skateboards etc to be made legal to use in the UK as they are in many other countries.

It followed on from a 'Call for Evidence' between July and September 2018 in which it acknowledged that:

- travel and transport are changing fast - there will be many new ways soon for people and goods to move around
- people are changing - there are more older people and they drive more while young people are choosing to drive less by travelling differently
- Everyone wants good, safe non-polluting transport
- It must be made easier for people to walk or cycle short distances or as part of longer journies

For the full report see:

https://assets.publishing.service.gov.uk/government/uploads/system/

Speed Pedelecs

A growing section of the e-bike market is the Speed Pedelec or S-Pedelec.

Speed Pedelecs in Europe are pedal assist pedelecs with a higher powered motor with a maximum speed of 45 km/h (28.1 mph) and are considered to be mopeds.

With these power and speed characteristics speed pedelecs must comply with the EU's type approval regulations that came into force in January 2017. In the last two years they have taken 14.7% of the moped market.

In the UK S-Pedelecs must conform to different braking, lighting and build quality standards and be DVLA registered as per a moped, that is, they have to have a number plate, a MOT and the rider must pass a one day moped test valid for two years or have a motor cycle licence and wear a motor cycle helmet. They can only be used on the road and not a cycle track or dual use path.

E-Scooters

E-scooters are overtaking e-bikes as the mode of sustainable transport to use in Paris and many other European cities and towns but in the UK they are not legal. .

In a government report published in March 2019 - Future Mobility: Urban Strategy - it was stated that they will look at what new laws will be needed for e-scooters and other forms of micromobility to allow them to be used in the UK.

In the meantime DVLA requires **electric** vehicles to be registered and taxed in order to use the road. However, because the adult **electric scooter** falls within the PLEV category (Personal Light **Electric** Vehicle) its power and low maximum speed mean it cannot be used on public roads in the **UK**. This rule also extends to pavements too. The same regulation also applies to petrol scooters

They can currently only be used on private land such as your home or off -road space.

E-Skateboards

Electric skateboarders or e-skateboards are also growing in popularity despite being illegal in the UK to ride on public land; roads, pavements and in parks and a risk of the owners being fined. A bid has been made to the Government for permission to update the regulations to enable them to be legally used.

Commentators state riding an **electric skateboard** is not **safe**. They look like toys, but are able to pack the power and speed of a tiny **electric** car, without the protective shell. Riders, experienced skaters or absolute rookies, have to get used to them to be able to safely operate them and avoid an accident.

It should be noted that even unpowered scooters and skateboards cannot **legally** be used on pavements, footpaths or cycle tracks as they have no right of way, but the Department for Transport admits it is not very practical trying to enforcement the law although local bye-**laws** can be created banning them.

Hoverboards

The first hoverboard, also known as self-balancing or two wheeled boards, arrived in 2015 and became very popular. Shortly afterwards a number of manufacturers started selling poor quality versions and there were many reports of ones overheating and catching fire.

Models made today do not suffer from this defect but again they are not very safe and cannot legally be ridden on public land.

Segways

The Segway was developed in 2001. They are found in many European cities and other parts of the world where they are used to take tourists on tours.

In the UK as with the other types mentioned above they are not legal although they can be used on private estates.

Cycle to Work Scheme Refreshed for E-Bikes

New cycling minister, Michael Ellis MP announced on 9 June 2019 that the Government plan to refresh the successful Cycle to Work scheme to encourage more commuters to use e-bikes.
The scheme was first introduced by the government 20 years ago and since then has helped thousands of people to make their commute more environmentally friendly.

It promotes cleaner, healthier journeys to and from work by allowing employees to save money on a new bike or accessories via a salary sacrifice scheme.

70,000 e-bikes were sold in the UK last year and are seen as a game changer for their potential to make it easier for older or less fit people to take journeys that are a bit longer or hillier.

The refreshed guidance will allow employers to provide bicycles and equipment including e-bikes worth over £1,000, by making it clear that Financial Conduct Authority (FCA) authorised third party providers are able to run the scheme on their behalf.

As well as boosting air quality and reducing emissions, the refreshed guidance could also make daily commutes cheaper. A recent survey of 2,000 commuters (commissioned by Evans Cycles) estimated that by switching from car, bus, tube or train to e-bikes, commuters could save an average of £7,791 over 5 years.

Michael Ellis, Cycling Minister, said:

> *"Cycling is a vital and easy way to improve air quality, reduce pollution and create vibrant towns and cities.*
>
> *Making sure that bikes are easily available is crucial to helping more people make the switch to greener modes of transport. Ensuring people of all abilities and fitness levels can cycle together is a key part of this.*
>
> *I want everyone to feel empowered to make cycling a part of their everyday lives, and our refreshed guidance provides many incentives to help people do this*."

New Minister for Cycling

Michael Ellis, MP for Northampton North, became the new cycling minister on 23 May 2019 after his predecessor, Jesse Norman, was hurriedly shuffled to the Treasury on the same day. He was previously Parliamentary Under Secretary of State for Arts, Heritage and Tourism.

Ellis thanked Norman for moving cycling and walking up the political agenda and in his first speech reiterated Norman that walking and cycling MUST be the default way of getting around for short journeys.

Employees to be Paid to Use E-Bikes

What was claimed to be an industry first, Chessington based urban electric bike brand Gocycle announced at the April 2019 e-bike summit held in Oxford that it will pay its employees 40p per mile if they chose to commute to work using an e-bike rather than a car and 20p per mile for standard bikes.

The e-bike summit was a forum attended by business leaders and key figures working in the sector to explore how to advance e-bike mobility.

Gocycle designer and founder Richard Thorpe said:

"Our cities are at breaking point with traffic congestion resulting in pollution levels that are causing health problems and premature death. It is no longer acceptable to do nothing; we all have a role to play no matter how small.

At Gocycle we truly believe that e-bikes are the perfect solution to help us live healthier and more sustainable lifestyles. We can't wait for Government policy to change, and it's no good expecting others to act first. So, we're starting with what we can do now and taking direct action to reward our employees for making the switch to more sustainable and healthy transport.

"There are countless studies that indicate the enormous cost savings that pedal power can bring to the NHS and wider communities. Paying people to choose to commute by e-bike over a car is an investment in future cost savings for our communities and good for the planet. It just feels like the right and smart thing to do, and I urge the Government to support businesses with tax credits for all cycle miles commuted, or at least allow the mileage allowance to be tax free to the employee.

"My message to other businesses is simple – join us! There are huge benefits for businesses beyond contributing to reduced pollution levels. Research shows that encouraging cycling reduces sickness levels and contributes to a more productive, healthier and happier workforce."

2019 marks the tenth anniversary of Gocycle since the launch of its first model. The business now has three models: the GS, the GX and the G3 (left).

Batteries

Types

Batteries currently used on electric bikes are likely to be of the Lithium-ion type called Li-ion, Li-pol or LEP.

These have replaced the heavy Lead-acid (SLA) type used in the first e-bikes followed by the lighter, Nickel-cadium (NiCd) and Nickel-metal Hydride (NiMh) types.

The Lithium-ion battery may also contain cobalt, manganese or other materials but it is more important that a high quality type is used which contains cells. Current manufacturer are Bosch, Panasonic, Samsung, Shimano and Sony.

Capacity

Battery capacity is measured in Watt hours (Wh) and the current ones are usually in the range 400-500Wh although lightweight or folding e-bikes may have a smaller lighter version as low as 180Wh particularly if the bike is used for short journeys.

The new folding e-bike from Brompton is an exception with a capacity of 300Wh (see page 17).

German manufacturers are now offering dual batteries with a massive capacity of up to 1000Wh to allow one to ride all day without having to recharge.

Miles per Charge

This is difficult to calculate as it depends on the weight of the rider, the terrain and the weather and the level of power used. Riding below the bikes 15.5mph maximum speed and using the gears can give a significantly increased range.

Shelf Life

In general, with regular use, a battery becomes less efficient after 3 to 5 years.

Most manufacturers guarantee that a battery will retain at least 60% of its charge after 500-1000 charges but in practise a good quality battery will last much longer.

STOP PRESS

Next year will see **Graphene-Lithium nano technology** revolutionising e-bike batteries.

The new batteries will bring 2.5 times more energy density compared to current ones.

Motors

.

E-bike motors can be placed in the centre crank or front or rear wheel hub.

However, one significant difference is that a motor in the frame will be coupled to the cranks. That means the control electronics can include a sensor that detects how hard you're pedalling and meter out the assistance accordingly. It also improves the weight distribution although motors are now getting much smaller.

The power of the motor is measured in Watts (W). The average power - also known as the nominal power - must not exceed an average of 250W over 30 minutes based on current government regulations.

The main suppliers are Bosch, Shimano, Yamaha, Panasonic and ZAZUA.

Latest Bosch motor

Brompton E-Bike

After fours years in development Brompton launched its first folding e-bike in June 2018.

The bike has a motor in the front hub and an external battery pack clipped to a mount attached to the head tube. Four versions are currently available - the H2L white (2 speed), M6L white or black and H6L white (6 speed)

E-Cargo Bikes - Sainbury's

E-cargo bikes are starting to become popular for the 'last mile delivery' journeys in commercial and residential areas to transport anything from packages to pizzas. They are a much cleaner alternative to diesel vans and help to reduce air and noise pollution in towns and cities.

The supermarket Sainsbury's in April 2018 started grocery delivery trials across South London from their Streatham Common store using five bikes delivering up to 100 orders a day to local customers who had shopped through the retailer's online website.

The bikes are able to make use of cycle lanes to avoid traffic queues, particularly in peak delivery hours, and are able to park closer to customer's homes than is often possible using traditional delivery vans. The trials have shown the bikes to be up to four times quicker than the vans.

.The Government in September 2018 launched a £2 million fund to support the uptake of e-cargo bikes.

On 12 October 2018 the Department of Transport announced that it would contribute 20% of the purchase price up to a threshold of £5000. Funding will be conditional on individual businesses following a code of cycle safety good practice and the money will be split between larger and smaller operators to ensure benefits are available to and spread between all sizes of business.

Who will be the first business in Bedford to take up the offer?

Royal Mail E-Trikes

Royal Mail in March 2019 started a six month trial using eight Italian built eight zero-emission e-Trikes for letter, card and parcel deliveries as part of its efforts to help the environment by reducing carbon dioxide emissions associated with its operations.

The trial is taking place in Stratford (East London), Cambridge and Sutton Coldfield. Once the trial period has ended, Royal Mail will then make a decision on whether to expand the trikes more widely across the UK.

The new vehicles are predominantly powered by a combination of solar, battery, pedal and brake technology and are 1200mm wide x 1968mm high.

Pedals assisted by a 250W electric motor power the e-Trikes. The motor itself is operated by a 48V lithium battery, which is recharged by mains power and supplemented by two solar panels positioned on top of the vehicle. Regenerative braking also helps to power the trike.

The e-Trikes are the first for the Company, which has pioneered new kinds of transport throughout its 500 year history.

The Post Office introduced it first bicycles in 1896 after more than a decade of trials with various types. The use of bicycles lasted until 2014 when the last red Pashley Mailstar was withdrawn by the Royal Mail.

.

DPD E-Cargo Bike

Parcel delivery group DPD has helped with the development of a lightweight pedal-assisted four-wheel e-cargo bike from an Oxfordshire-based start-up, Electric Assisted Vehicles (EAV). News about EAV's Project 1 e-cargo bike was revealed at the April 2019 Oxford E-Bike Summit. Three bikes have been under test with the first production models available in June 2019.

DPD will trial P1's from its all-electric parcel depot which opened in London in October last year.

The P1 is 1 metre wide by 2 metres long and weighs just 75kg. It has a 250 watt motor. Despite being a four-wheeler, it is classified as an electric powered bicycle, or EPAC, not a light electric vehicle, or LEV. It is designed to be the "Sprinter van" of the e-cargo bike world and has indicators and other motor vehicle accoutrements but it can legally travel on cycleways.

DPD CEO Dwain McDonald said:

"Our aim is to be the most responsible city centre delivery company, which means neutralising our carbon footprint and developing smarter, cleaner and more sustainable parcel delivery services."

Uber Focuses on E-Bike Mobility

Ride sharing company Uber announced last year that it plans to focus more on electric bikes and scooters and less on cars for short journeys. It claims that more individual modes of transport are better suited to inner city travel, despite its competition with existing Uber drivers.

In the rush hour it is very inefficient for a one tonne hulk of metal to take one person 10 blocks.

In April 2018 Uber acquired the US bright red dock-less electric bike and scooter sharing company 'Jump'. Their bikes are now operating in many US cities as well as in Germany, Portugal and the UK.

Uber has recently done a deal with the E-scooter company 'Lime' which is active in more than 50 US cities and several locations in Europe including Paris and Zurich.

Jump e-bike in Brussels (above)
Lime e-scooter In Zaragoza (right)

Full Circle - Car Makers Now in E-Bike Market

In the latter part of the 19th Century there were 64 companies involved in the manufacture of cycles - Hillman, Humber, Morris, Rootes, Rover, Siddeley, Sunbeam, Triumph, etc just in the UK. All of these became automobile manufacturers.

The tide has now turned full circle.

It started with a number of car component manufacturers such as Bosch, Continental and Brose targeting the electric bicycle market with specially made mechanical parts. This has recently been followed many others.

Main car makers Ford, General Motors, Volkswagen and Peugeot and others have now invaded the market.

The change in policy of all the automobile and component manufacturers is due to the trend in urban areas all around the world to get away from the congestion and pollution of four wheeled vehicles with people changing to two wheeled mobility, e-bikes and e-scooters and even single wheel Segways.

Ford originally entered the market with an agreement with Dahon to make a folding bike that could fit into the boot of their cars. It has recently bought an electric scooter start-up company and is now operating scooter share programmes in a number of US cities and college campuses.

General Motors announced in early 2019 that it was taking orders for two electric bicycle models; a folding bike (ARÎV Meld) and a compact model (ARÎV Merge).

Deliveries of both models started in Europe during June 2019.

WHAT GOES AROUND COMES AROUND

Steer Assist System

The growing number of e-bikes in the Netherlands and an increase in their use by the elderly has seen a rise in the number of serious accidents. Those causing serious injuries often occur as cyclists lose control of the bicycle.

As a result the Dutch Technical University in Delft and the cycle manufacturer Gazelle have developed a 'smart steering support' for bikes which they claim is a kind of power steering for e-bikes but one which is much smarter than the ones for cars.

The steer-assist system is the world's first enabling a bike to be kept upright with the help of a small electric motor integrated in the handlebars. The motor adjusts the steering whenever a cyclist is likely to fall. The system helps the bike and rider to be kept stable above a speed of 4 km/h (2.5 mph).

The steer-assist prototype developed in 2016 combines fundamental scientific knowledge from the Delft Technical University gained over 15 years of research with the expertise of Gazelle; the largest supplier of bikes and e-bikes in the Netherlands.

The concept enables a smart bike to keep people of all ages safe while cycling.

Steer assist system prototype

Charging Stations

The distance a battery on your e-bike will take you depends on how many hills you have to go up and local conditions. Its range can be extended by reducing the amount of assistance from the motor and increasing the amount of effort you put in to pedalling.

At the present time there are not many public charging points in the UK although e-bike batteries generally can be easily removed to a nearest standard socket.

One location which caters reasonably well for e-bikers is the Isle of Wight, a major tourist area for cyclists, The island is keen to see an increase in e-bikers to keep it environmentally friendly. As a result more than 24 pubs and cafes currently allow customers to plug in while they visit their premises.

Charging point at The New Inn Shalfleet IoW

Recently installed charging points by Falco for e-bikes at Hull railway station

Charging station in Germany

PSPO Restricting Cycling in Town Centre Pedestrianised Area

The Borough Council In 2016 introduced a Public Spaces Protection Order (PSPO) to restrict cycling in the pedestrianised area of Bedford town centre. The order came into effect on 16 May 2016 for a three year period. This expired on 16 May 2019.

The Council proposed to extend the PSPO for a further three years but before taking a decision decided to carry out a public consultation between 22 March and 26 April 2019.

Two questions were posed:

- Have you witnessed anyone cycling in Bedford Town Centre (between the designated times (9:00hrs and 18:00hrs) in the last 12 months?
- To what extent do you support or oppose the proposal for the extension of the PSPO for Town Centre Cycling restrictions for a further three years

A box was included to supply comments, ideas or alternative ideas you may have in relation to cycling in the Town Centre.

The consultation attracted 209 responses.

The first question elicited 134 (64.4%) respondents stating they had seen cyclists riding through the town centre over the previous 12 months.

The second question resulted in 108 (51.7%) responses supporting the extension and 90 (43.1%) against.

Comments were received from more than 142 respondents.

CCNB has analysed the results and categorised them into the following top ten top items:

1 - Aggressive and dangerous cycling - 41

The majority believed that only the responsible and careful slow cyclists were fined while the fast, aggressive and dangerous, mainly young, cyclists, some doing wheelies, were regularly ignored.

2 - Encourage not discriminate cycling - 31

Cycling should be actively encouraged for health, congestion easing, air pollution and climate reasons as well as helping the town's economy and not treated as an anti-social activity.

3 - Clearer signage required - 16

Many commented on the confusing or difficult to see signage informing the PSPO.

4 - Safe cycle routes required - 13

Forcing cyclists onto the congested and fast perimeter roads is less safe.

5 - Extend the area to all parts of the town - 10

Dangerous pavement cycling by fast cyclists was seen all around the town.

6 - Enforcement Officers attitude, etc - 9

The bullying attitude, aggressive manner, and scruffiness of officers were cited as not being suitable to Bedford.

7 - Bike thefts - 7

Officers would be best employed to help reduce bike theft in the town.

8 - PSPO for cars - 7

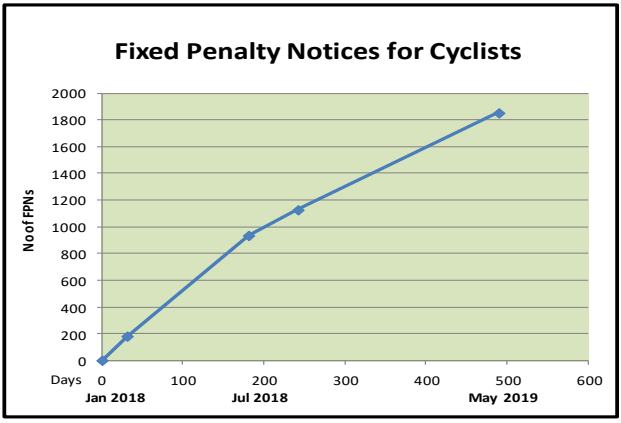
Motor vehicles cause significantly more/more serous accidents.

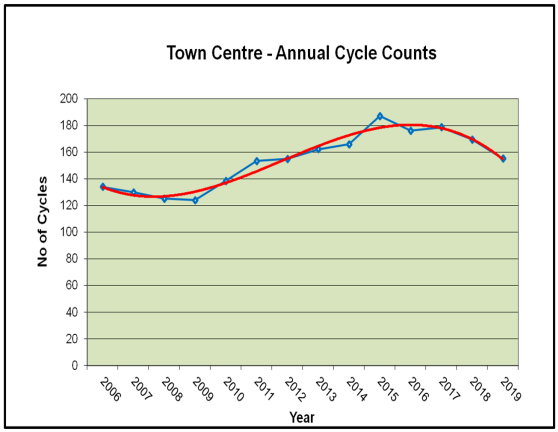
9 - First timers should not be fined - 5

10 - Skateboarders/scooters include - 4

Other items recorded were mobility scooters hazards, times of ban (should be shorter) and pedestrians on phones.

The figure right shows that nearly 2000 Fixed Penalty Notices (FPNs) have been issued since enforcement was contracted out to Kingdom Securities in January 2018.





The figure left shows counts carried out by CCNB in the town centre since 2006 to the present time. The number peaked in 2015 and up to June 2019 had dropped by 10%. CCNB believes this has been due to the introduction of the PSPO in May 2016 and accelerated by the arrival of Kingdom who keep £42.50 from each FPN issued.

CCNB has been concerned about the number of elderly and disabled people who use a bicycle or tricycle as a mobility aid that have been fined.

In meetings with the borough before the introduction of the PSPO CCNB was assured that the police had a long practiced discretionary process around disabled persons and this would be continued by the enforcement officers. A flow chart similar to the one used by the police would be drawn up and given to the enforcement officers for this purpose. CCNB believes this has not been followed by Kingdom Securities.

A second concern has been whether or not the signage at the entrances to the pedestrian zone are legal and fully visible to everybody.

Ambiguous signage at the southern end of Harpur Street

The most prominent sign in the photo above is the one showing that no motor vehicles or motor cycles are allowed in the area.. Less prominent is the official 'No Cycling' sign but next to it an illegal sign where no cycling has been crossed out by a red diagonal causing confusion and ambiguity

St Cuthbert Street New Stands

Five new 'Sheffield' type cycle stands have been installed in St Cuthbert's Street near its junction with St Peter's Street courtesy of ex Castle Ward Councillor Luigi Reale at the request of local businesses.

St Cuthbert's Street Cycle stands

North of Bromham Road Cycle Track

A cycle track between The Baulk (opposite the entrance to the underpass) and St James Way has recently been completed (below).

Track between The Baulk and St James Way

Bromham Road Railway Bridge

The second phase of the work to reconstruct the Bromham Road railway bridge to a higher level to enable the Midland Mainline to be electrified is to divert all the utilities and services currently crossing the bridge onto the temporary bridge built alongside. The work started on Monday 24 June 2019 with complete closure of the road to motor vehicles until 12 April 2020.

During this time pedestrians and walking cyclists are able to cross the bridge on the south side pavement for first few weeks but will then have to use the temporary bridge. The pavement width is only 1.5 metre while the temporary bridge will be less than two metre wide with minimum solid sides of at least 1.85 metre. This will make it difficult to use by two way push chairs, wheel chairs and mobility scooters due to its narrowness and, in the case of the temporary bridge its tight ramp corners.

The bridge closure looking east from the Bromham Rd/Hurst Gr junction

A clearly sign-posted diversionary route for motor vehicles has been put in place via the A6 and Clapham Road.

A crane will be installed in Bedford railway station's main car park for nine weeks from Monday 21 October to Sunday 22 December 2019 to help with the demolition of the top half of the bridge, planned to start in early November 2019, and its reconstruction to a higher level. Initially this will result in up to half of the spaces (300) in the station's main car park area being unavailable although this number will reduce to about a fifth for the last six weeks.

During this time it will be a golden opportunity to encourage more commuters who only have to travel a short distance to cycle or walk to the station.

The Department for Transport has still not given a date for the decision to be taken by the Secretary of State for Transport on the Transport and Works Order for permission with or without conditions and deemed planning permission to replace the Bromham Road railway bridge.

Network Rail have stated that this permission is now not necessary as the previous and current work has been covered by granted permits under the New Roads and Street Works Act 1991 (NRSWA).

This Act provides a legislative framework for street works (including utility companies) and works for road purposes although they must be coordinated by the local authority.

The demolition and re-construction of the bridge itself will be covered by the approval by Bedford Borough Council of Network Rail's planning application - 19/00370/FUL - due to go to the Council's planning committee on 26 July 2019.

A separate bridge for cyclists and pedestrians alongside the rebuilt bridge is currently being designed. How this will link up to the existing cycle network is not known at this stage. It will however have to go through the planning approval process and if approved is not likely to be built until at least 2021/2022.

Kempston Mill Link Path

The muddy section of path between the Great Denham country park and Kempston Mill bridge was surfaced in March 2019. There is however still no indication as to when ramps will be fitted to the bridge to make the route suitable for the disabled, etc.

CCNB AGM

.

CCNB's 26th AGM took place on Friday 10 May 2019 at the Friends Meeting House in Lansdowne Road. 14 members were present.

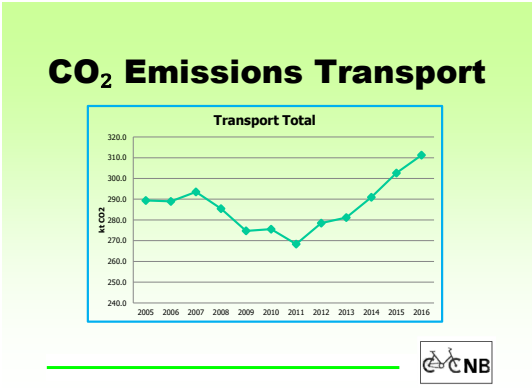
Presentation

Prior to the AGM, Editor and Chair of CCNB, Peter Blakeman, gave a presentation on 'The entertaining and serious side of cycling in videos and the current situation in Bedford in graphs and pictures'.

The presentation started with a video on **wheelies** - not on the still prevalent illegal practise seen in Bedford town centre in spite of the PSPO banning this dangerous and irresponsible behaviour - but on its use as an artistic component of Europe's annual World Indoor Cycling Championships.

There have been many calls on the Government to increase the level of funds given to local authorities to install high quality cycle infrastructure. Examples from British Cycling and CCNB showed that what money is available is not always spent wisely.

The main part of the presentation centred on the effect of **air pollution** in Bedford on **climate change** and **resident's health**.



While all domestic and industrial levels in Bedford Borough decreased by 29-39% between 2005 & 2016 all transport levels increased by 8% (16% since 2011)

Bedford Borough

estimated attributable deaths per year of residents aged over 25 years in the period 2010 to 2017 due to Particulate Air Pollution

70-100

Although annual nitrogen dioxide levels have slowly decreased in the town centre area daytimes levels are still high and particulate molecules are estimated to be responsible for more than 70 premature deaths

The presentation concluded with a question as to how many people can get on a bicycle. Yes this is another illegal cycling activity where on an highway no more than one is allowed. The video shown was an extract from a Chinese circus act in which a bicycle carried 10 people in an artistic manner.

AGM

The AGM started with a minutes silence for CCNB member Trevor Hughes who had died two weeks before (see page 35).

The Chair gave thanks as always to the committee for helping to ensure that CCNB had run smoothly over the past year.

The committee was re-elected on bloc.

We have at least one vacancy and if anyone is interested in joining the committee or knows of a friend/colleague who is interested in campaigning for better and safer cycle infrastructure in the borough please let the chair know.

Throughout the year CCNB looked at 126 planning applications (126 previous year) which contained cycling elements and responded to 16 (26 previous year).

Milton Keynes Lime Green E-Bikes

November last year saw the launch of the UKs first fleet of dockless electric assist bikes in Milton Keynes called Lime-E.

The new scheme started with 100 bikes but this number is expected to be increased over the next few months.

The bikes are equipped with a 250 watt motor and have a maximum assisted speed of 14.8 miles per hour. The electric battery reduces the effort required to cycle, making the bikes suitable and accessible for people of any age or fitness level.

The Lime app makes it simple to find, unlock and pick up a nearby e-bike. The current charges are £1 to unlock and an additional 15 pence per minute of riding time.

Lime, a US Silicon Valley based company already rents out electric bikes in Europe and America.

It has appointed a team of local staff with an intimate knowledge of the city to operate and maintain the fleet.

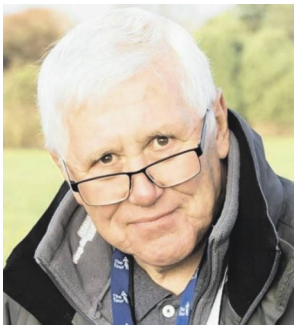
Seen in Watling Street on the bridge above Fenny Stratford railway station

The city has had a pedal bike rental system with 40 docking stations since June 2016., but operator Santander said in Summer 2017 the service was at risk after more than £200,000 of 'intentional damage' had been caused in the first year.

Lime said that in its other operations it had experienced less than 1% being damaged or stolen.

.

Obituary - Trevor Hughes - 1947-2019



It was with sadness that we learnt of the death on 26 April 2019 of Trevor Hughes following a heart attack.

Your Editor had known Trevor for nearly 20 years as we were both members of Bedfordshire County Council's Cycling Forum which until the Council's demise in 2009 held meetings three times a year on rotation in Dunstable, Ampthill and Bedford.

Trevor had been a stalwart of British Cycling as a Chief Judge for the Tour of Britain for many years, a member of The Women's Tour and Tour Series officiating teams as well as a judge at the London 2012 Olympic Games' road cycling events.

Trevor was also Cycling UK's Off-road Right to Ride representative for Bedfordshire and a member of CCNB.

At CCNB's 22nd AGM on Friday 17 April 2015 he gave an enlightening talk on his experiences as a Commissaire/Judge at cycling events.

A letter of condolence was sent by CCNB to his wife and family.

Cycling to Bedford Railway Station

CCNB has been counting the number of bicycles parked by commuters at Bedford railway station on a regular basis since 2006.

Counts on 18 June 2019 at 462 bicycles gave the third highest to date. The highest, 471, was recorded on 17 July 2018 and the second highest, 467, on 5 September 2018.

The total number of spaces available is 612 giving plenty of room for new cycling commuters.

Borough Elections

The results of the Bedford Borough elections on Thursday 2 May 2019 returned Dave Hodgson as the Mayor of Bedford for his fourth term of office.

The first announcement of his new term was the creation of a new Climate Change Cabinet committee which will work on a cross-party basis to maintain and accelerate the Council's progress in tackling climate change. The borough has already met its target of a 40% reduction and last March the Executive declared a climate change emergency and pledged to begin work towards zero carbon by 2030.

w

Diary

7 - 14 September 2019 - Tour of Britain starting from Glasgow
13 - 15 September 2019 - The Bike Show at NEC Birmingham
Saturday 14 September 2019 - Bike 'n Hike
16 - 22 September 2019 - European Mobility Week

See *http://www.ccnb.org.uk/diaryb.shtml* for details & other events

Local Cycle Rides Contact:

Cycling UK (CTC) - North Beds Section - (01234) 219148

Cycling Campaign for North Bedfordshire

Our Vision

To see Bedford as a
'Town of Cyclists' & 'Cycle Friendly Communities'

Objectives

- To promote, encourage and support cycling as an important means of transport and recreation.
- To encourage consideration of the needs of cyclists in all aspects of transport planning and management, access issues and recreational use.

Membership

Please contact us if you have any cycling issues or better still, consider becoming a member to give us added weight in our discussions with the relevant authorities. Write to:

Membership Secretary, c/o 15 Dove Road, Bedford, MK41 7AA

including your name, address, postcode, telephone number and e-mail address (if available) together with your subscription.

Single £3.00 (£13 for 5yr); Family £5.00 (£22 for 5yr)