

INTRODUCTION

The principal aim of this chapter is to identify and analyse relevant sources of literature that offer insight, commentary, or key data on the issue of e-bike usage, its criminal use, and the efficacy of strategies, if any, that have been implemented by police and other authorities with an aim at tackling the issue.

Although several objectives of my study relate to the issue in Gwent specifically, namely the extent of the issue in Gwent and evaluating Gwent's current strategies and enforcement policies, I am not anticipating that there will be any existing literature specific to Gwent.

The sheer speed and extent of the expansion of e-bikes usage in the United Kingdom has created a phenomenon that poses a unique challenge to police forces around the country, particularly in high crime urban areas. Due to the relative nascency of this issue, the literature is very much still a developing area of research; this is a contemporary issue with little to no historical literature from which to draw a chronological analysis. The review will, therefore, assess literature on a thematic basis and seek to identify any gaps in research that would be valuable for me to consider in my own research and for the benefit of policing as a whole.

The objective of this review is to assess the current breadth and quality of literature regarding e-bikes and their impact on crime and policing. Where possible, literature has been selected which contain an element of illegal e-bike usage, although due consideration is also given to e-bikes that are legal but are used in an illegal way. The objective will be achieved through examining a variety of sources, notably research publications, academic journals, legislation, journalistic commentary, and other sources which address the potential solutions to the issue at hand.

LEGISLATION AND PARLIAMENTARY DEBATE

It is first important to establish the literature, largely legislation and guidelines around it, which draws the line between a legal and an illegal e-bike. Electrically Assisted Pedal Cycles (EAPCs) were categorised following the Statutory Instrument (*The Electrically Assisted Pedal Cycles Regulations 1983*) and amended version (*The Electrically Assisted Pedal Cycles (Amendment) Regulations 2015*) by limiting their specifications to a certain wattage, and speed. More recent guidance (Department for Transport, 2024) confirms that a legal EAPC must be fitted with pedals that can propel it, have a continuous rated power not exceeding 250 watts, and function so that electrical assistance is cut off by the time it reaches 15.5 miles per hour. In any event, legal EAPCs cannot be used by anyone under the age of 14.

Lord Lucas of Chilworth (1983) debated in Parliament when these regulations were first created that it was purely for the purpose of setting out the "type of machine" that would take advantage of exemptions to MOT vehicle testing, licences, insurance, and safety helmets. Lord Chilworth noted their benefits to the handicapped and their pollution-free bonus to the environment. Potential for criminal exploitation of this fairly new technology does not appear to have been something under consideration by the legislators at the time.

When the aforementioned amendment to the regulations was introduced in 2015, criminal exploitation again does not appear to have been under consideration. Instead, the purpose was to actually make e-bikes more accessible and widely used. The Minister of State Department for Transport, Baroness Kramer (2015), debated at the time that the amendments were warranted due to “significant improvements to technology” and overly restrictive requirements in the UK. Thusly, the 1985 weight limits for EAPCs were scrapped and the maximum motor power increased from 200 to 250 watts. Baroness Kramer did qualify that there was no evidence from other European countries, where EAPC usage was higher, that they posed any safety risks. Noted advantages were easing of congestion and facilitating goods delivery; no disadvantages were reported.

In more recent years, a flurry of debate around e-bikes has been noticeable in Parliament. Interestingly in terms of the geographical context of my study, the first reference to an EAPC, e-bike, or electric bike in Parliament in the context of nefarious or criminal uses was a question put to the Home Secretary by Jessica Morden MP (2022) who is the MP for Newport East where I am based as a police officer and my own MP. Morden asked what the Government was doing to improve awareness of e-bike use and to support the police in tackling their antisocial use, to which the Home Secretary responded that they would be working with police forces to tackle the inappropriate and criminal use of e-bikes.

Morden made a further motion in December (2022) noting the “alarming trend locally and across the UK” of antisocial and illegal activity on e-bikes, but that Gwent Police was doing what they could to crack down on it with some successful seizures despite noted budget cuts to the police service in the past decade.

Morden led the charge in Parliament again (2024) by motioning for a Bill to require the Secretary of State to commission a review of the legislation and guidance relating to e-bikes, referencing also the related safety problems of recent years with toxic lithium battery fires occurring once every two days in London in 2023.

Although Parliamentary sources are not necessarily the best literature to reference, in the absence of actual scholarly research from which to draw conclusions for this study, it is a particularly valuable resource for understanding the nature of the issues and what those across the political spectrum are aware of and actively trying to do to improve matters. I am surprised by how little the criminal exploitation of e-bikes has been raised in Parliament, although it is very interesting that it is the MP for Newport East who seems to be leading the charge mostly alone on this issue. It reflects the concerns of Newport constituents and that perhaps Newport is burdened by this issue over and above the rest of the UK.

PERIPHERAL STUDIES

An examination of scholarly research available on this topic shows a complete information vacuum where e-bikes overlap with crime. I cannot locate a single piece of research which addresses the objectives of my study.

By far the most prevalent topic of research relating to e-bikes is their road safety implications. There is a very peculiar nexus of research out of China into this topic that is almost the sole home of this specific sub-topic. One literature review (Ma et al., 2019) sought to bring sources of literature together and concluded more than 90% of e-bike traffic

accidents were caused by risky riding behaviours, including speeding, running red lights, illegal lane occupation, and cycling contrary to the flow of traffic.

Another Chinese study (Liang, Meng and Zheng, 2021) concluded, after comparing data between accidents involving conventional bicycles and e-bikes with like-for-like or against pedestrians, accidents between e-bikes and pedestrians were high-occurrence events and they exposed pedestrians to the highest injury risks.

Elevated injury risk was investigated by Trichinopoly Krishna et al (2021) as well. They concluded that mandatory helmet legislation for EAPCs should be introduced to mitigate a safety issue that is likely to increase with increased EAPC usage. They stopped short of commenting on how this might be applied in practice in terms of enforcement and that this would presumably be limited to EAPCs and not vehicles which exceed those limits such as adapted “off-road” e-bikes.

It is worth highlighting for my own research that this is an issue which disproportionately affects children and males. An American study (Goodman et al., 2023) found that males accounted for 82.5% of e-bike injuries and the most common age group was 10- to 13-year-olds contributing 44.3% of the injuries noted among children sampled. It is also interesting to note only 2.7% of those who suffered an e-bike injury were wearing a helmet.

Even in peripheral issues around both legal and illegal e-bike use there is a scarcity of research. There is a significant gap in research and a complete vacuum where e-bikes intersect criminality, which has emboldened me even further to undertake this study.

USE OF E-BIKES FOR CRIMINAL ACTIVITY

I cannot identify any official data on the use of e-bikes for criminal purposes. The overwhelming majority of literature on how e-bikes are exploited for crime is from journalism which offers social and political commentary on the issues but offers little more to benefit this study. For that reason, I have decided to only highlight a few of the more significant or interesting articles I have come across.

Parashar (2025) expounded for the Daily Mail on the “epidemic” of theft facing London, where criminals are using e-bikes with dangerous modifications to reach top speeds and remain stealthy.

Bowden (2024) reported on ‘Operation Crush’, an initiative by Hampshire Police particular to repeat offenders who are served with a disposal notice and their vehicle being crushed if they are illegal or being used illegally.

City of London Police (2024) made a press release to announce five illegal e-bikes and e-scooters were seized every week. Between 2022 and 2023 their crackdown on illegal -e-bikes had reduced phone snatching offences by 40%.

OVERVIEW OF STRATEGIES

The most useful application of my research is likely to be its use as a springboard for recommendations to Gwent Police about effective strategies to combat the issue. An effort has been made to target this aspect of the literature with a view to building on that later in the study.

It is worth noting that any effective strategies against this issue are not necessarily going to be adopted if the budget for it is not available. In April 2025, the Metropolitan Police announced a series of cuts, one of which was a 55% budget reduction to the MO7 taskforce which includes tackling e-bike crime under its remit (Obese-Jecty, 2025).

Calvin Bailey MP (2025) noted in Parliament that e-bikes were a “key enabler of mobile phone theft”. In order to tackle this, he referred to effective work being done by Councillor Jo Blackman; “simple” measures such as ending the off-road sales loophole. This is more relevant to regulation of e-bike sales although police should still be cognizant of these developments.

Also in 2025, the All-Party Parliamentary Group for Cycling and Walking (APPGCW) produced a report (APPGCW, 2025) on the threat of illegal e-bikes with recommendations for tackling the risks posed from their unsafe and illegal usage. One section is very pertinent to my objectives as it gives recommendations for tackling the threat. Some of its recommendations are more relevant to a study of e-bike sales regulations, for instance it recommends ending the “road-legal” loophole whereby illegal vehicles are sold under the guise of being for “off-road use”, and withdrawing unsafe e-bike items from sale immediately (whether they lack appropriate product specification or exceed limits to be considered an EAPC). One sub-section recommends giving police clear powers to act. The APPGCW concluded police needed clearer and faster enforcement powers separate from the Road Traffic Act, as well as the ability to improve police data collection, and encouraged working with Trading Standards to crack down on irresponsible sellers and importers. Conversely, the charity Wheels for Wellbeing (2025) who campaign for enhanced access to the benefits of cycling for disabled people responded to the APPGCW report that some of their recommendations aimed at restricting e-bikes would disproportionately impact disabled workers who work in the “gig economy” where e-bike use is prevalent. One of Wheels for Wellbeing’s counterproposals to APPGCW’s report that is relevant to this study is making the purchase of devices that are illegal to use on the highway illegal in itself, absent of any declaration of a legal purpose for which it will be used.

Police resources are a relevant factor to the ability to undertake effective enforcement programs. Nick Smith MP for Blaenau Gwent and Rhymney (2025) which comes under the Gwent policing authority asked the Minister for Policing and Crime Prevention about the problem of e-bikes which are “chipped to go faster and have become a new danger”. The Minister responded that 60 additional officers would be available in Gwent Police to help tackle the antisocial behaviour involving e-bikes and other vehicles. This is a rather non-specific answer and does not factor in that these new officers are likely to be general response roles and not dedicated to tackling the issue of e-bikes.

In addition to police resources being a factor for consideration, some police forces have taken to using e-bikes themselves for patrols. This has been implemented on the Isle of Wight (PCC for Hampshire, 2023) to tackle anti-social behaviour and associated crime, be more visible in the community, and respond quicker. There has been a notable uptake in adoption by police departments in the United States as well with reporters in California

(Young, 2023) and Virginia (McNeill, 2024) both lauding advantages in engagement and less fatigue among officers on patrol.

Markham (2025) reported on the use of technology to combat the issue, where police could utilise portable electromagnetic pulse (EMP) devices to interfere with the motor's control circuit thus disabling it. Digital RF (2014) demonstrates the EMP stop in action with an electric car, although the safety implications of its use with e-bikes would undoubtedly require thorough investigation of risk before rolling out.

CONCLUSION

I did not anticipate before conducting this literature review that Newport East, my local police station, would be so uniquely at the forefront of political debate on the issue at hand. This has encouraged me even further to undertake the study as there is clearly an appetite within the community and its political leaders to address this issue, and it is one in which Gwent is particularly affected.

The scarcity of literature, particularly scholarly research, on this topic is notable. I think Gwent Police and the rest of the UK police forces would greatly benefit from further studies beyond the purpose of this one, particularly with regard to statistical analyses of how e-bikes are being utilised for crime, and studies into the efficacy of specific proposals such as EMP devices or other technology.

This research topic is clearly a very new issue that society is facing, and it will take time for necessary research to be undertaken, reported, and acted upon. Having only been mentioned in Parliament for the first time in 2022 and the pace at which it has risen to a hot political topic shows how much of an issue this now is and how much the UK as a whole, but particularly Gwent, is in need of solutions.

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