CPAG POSITION PAPER February 2003
Powered Two Wheelers (PTWs)

The Cyclists' Public Affairs Group (CPAG), and the cycle user groups within it – Cycle Campaign Network (CCN), CTC (the national cyclists' organisation), London Cycling Campaign (LCC) and Sustrans – all strongly oppose the use by PTWs of bus lanes or of facilities that are designed to encourage and protect cyclists such as cycle lanes and advance stop lines. We are equally concerned about the policy of exempting PTWs from the Congestion Charge in London.

Our position is not based on antipathy towards motor cyclists as a user group. PTW users, like cyclists, are vulnerable road users who have historically suffered from a lack of attention from other drivers and policy makers in terms of their safety, and the security of their vehicles when parked. Many of them ride safely and responsibly, and cyclists know all too well the frustrations of treatment based on simplistic behavioural stereotypes. However, it alarms us that policies which will increase PTW use are being adopted without considering the consequences of those policies, and without taking steps to address the entirely predictable road safety consequences. We are also concerned at the trend towards considering motorcycle policy alongside policy for cyclists and pedestrians. We do not believe the impression should be given that motorcycling is a benign mode of transport.

Two Wheelers in Bus Lanes.

Powered Two Wheeled (PTW)[1] vehicles are being allowed in some of London's bus lanes on an experimental basis despite the negative results of a similar trial in Bristol where studies showed that 31% of cyclists had experienced problems. This lead Bristol City Council to conclude that "it appears that the experiment has had a measurable negative effect on cyclists".[2]

These experiments are the result of sustained lobbying by the motorcycle industry which glosses over the severe problems associated with PTW use in urban areas. The reality is that PTWs are fast, dangerous, loud and dirty. Encouraging more of them to use bus lanes in London will have severe social and environmental impacts on all other road users.

PTWs are too fast.

With high power to weight ratios and the ability to move between other traffic, PTW users ride much faster than other vehicles. Like other motorists, a great number of them consistently break the speed limit, however, they typically do so by much greater margins - the proportion of PTW users exceeding urban speed limits by more than 5mph is much higher than for car drivers.[3] Their speed and their ability to overtake on the inside of slow-moving traffic makes them particularly dangerous in urban areas. When in bus lanes they are often tempted to go faster still. In this situation, they are particularly at risk of collision with vehicles from the oncoming direction turning right across their path. This manoeuvre can be obscured by slow-moving or stationary traffic lane adjacent to the bus lane, particularly when taller vehicles are present.

PTWs are too dangerous.

PTWs are hazardous to ride and dangerous to others. Generally PTWs are recorded as being the most hazardous form of road transport for their users. This is particularly the case in London where the serious injury rate is some 2.3 times higher than the national average.[4]

Much more frightening is their danger to other road users. Since 1984 we have known that "two wheeled motor vehicles, per mile driven, were five times more likely than cars to cause the death or serious injury of a pedestrian."[5] PTWs are also dangerous for cyclists; according to Department for Transport figures they are twice as likely per mile travelled to kill or seriously injure a cyclist than a car.[6]

The acceleration and manoeuvrability of PTWs means that for vehicles (including cyclists) wishing to change lanes, or any road users (including pedestrians) wishing to cross their paths, it can be very difficult to predict how rapidly they will accelerate, or what course they will take. This intimidates and endangers other road users (especially pedestrians and cyclists) who might wish to make manoeuvres in front of them (e.g. pedestrians crossing the road).

PTWs are too loud.

Noise pollution is a serious issue in urban areas and rural villages alike, and can have serious impacts on health and productivity. Noise from motorcycles can be intrusive and has been regulated by EC directives (3.7) [7] Levels of "noise annoyance" are being developed for the forthcoming European Union noise directive. While other vehicles are getting progressively quieter, some PTWs are as loud as ever, whilst the enforcement of noise levels has dropped dramatically (prosecutions in London are down 74% since 1994).[8] More people report hearing traffic noise than any other external noise and of those 78% objected to motor cycle/scooter noise compared to 72% for heavy lorries and 64% for cars and vans. Even though there are relatively few PTWs, 69% of people report being "annoyed" by PTW noise compared to 65% and 63% for heavy lorries and cars respectively.[9]

PTWs are too dirty.

The motorcycle industry claims an environmental advantage for PTWs because they use less fuel. This is totally misleading. Small PTWs with oil and petrol burning 2-stroke engines and larger ones with un-catalysed 4-stroke engines are the dirtiest form of transport on the road. They rarely carry more than one person and this alone puts them at a disadvantage to other passenger vehicles.

The Royal Commission on Environmental Pollution reported that:

"Because two wheeled vehicles can carry at most two people, energy consumption at average occupancy is higher than for a small car or most modes of public transport….Emissions from motorcycles have not hitherto been subject to statutory regulation, but are covered in a comprehensive EC type approval directive due to take effect in 1999/2000. This will allow motorcycles to emit much higher levels of carbon monoxide and hydrocarbons than a stage II petrol car, and mopeds to emit a higher combined total of hydrocarbons and nitrogen oxides than a stage II petrol car."[10]

In London estimates for 2000 based on the UK Emission Factor Database prepared for government and local authorities by the National Atmospheric Emissions Inventory (NAEI) give a fuller picture. Based on calculations of pollutants per passenger kilometre [11] for London PTWs have a slight advantage (7.8%) for carbon dioxide over cars but a 7.3% deficit compared to buses. Only for nitrous oxide and nitrogen oxides do they have a significant advantage over the more sophisticated engines, emitting about 23% of that of cars and 13% of that for buses. However for the other significant pollutants we find that:

For methane PTWs are 5.7 times worse than cars and 9.3 times worse than buses.
For carbon monoxide PTWs are 6 times worse than cars and 38 times worse than buses.
For sulphur dioxide PTWs are 19% worse than cars and 3.5 times worse than buses.
For non methane VOCs, PTWs are 10 times worse than cars and 27.6 times worse than buses.
For benzene PTWs are 10.8 times worse than cars and 821 times worse than buses.
For 1,3-butadiene PTWs are 11 times worse than cars and 14.4 times worse than buses.
Even for particulates, PM10, PTWs are 7.3 times worse than cars and 2.4 times worse than buses.

Horrific as these figures are, the situation is getting worse. As the older, dirtier cars and buses are being replaced by vehicles meeting stricter emission controls which do not apply to PTWs, the estimates for 2005 show even sharper contrasts. At the extreme the benzene pollution per PTW passenger kilometre will be over a thousand times greater than for a bus passenger kilometre.[12]

PTWs, Road space and Congestion

Even in terms of reducing congestion, the claimed benefits of PTWs are doubtful. As their road speed increases, the area required for safe stopping of a PTW increases exponentially, reducing any space and congestion advantage they may have over other types of motor vehicle. Hence a PTW requires a disproportionate area of road space for the size of vehicle. The congestion reducing claims for PTWs are based on simplified computer models of the movement of vehicles in one direction. If the effects on cross traffic and pedestrians are modelled with respect to the traffic flow measured in terms of people, not vehicles then any advantage of PTWs is likely to disappear. This undermines the claimed benefits of PTWs in terms of road capacity.

Even if an increase in PTWs were to help ease congestion, the evidence suggests that the cost of pursuing this goal would be the failure to meet a series of policy targets for improving road safety, health, noise and air pollution.

PTWs and Congestion Charging

The Mayor of London has decided to exempt PTWs from the proposed £5 congestion charge to take a motor vehicle into central London and intends to encourage the use of PTWs by increasing parking provision for them.

Research by Stephen Plowden[13] suggests that, if the exemption for PTWs goes ahead, this would lead to scores of extra deaths and hundreds of serious injuries every year, compared with what would occur if congestion charging was implemented without the exemption.

Moreover, the congestion charge exemption (and other incentives to PTW use, such as access to bus lanes) would undermine attempts to attract car drivers to more sustainable alternatives. It would increase the attractiveness of PTW use relative to safer and more sustainable alternatives (walking, cycling and public transport), thereby undermining key objectives of the Mayor's Transport Strategy. At the same time, his aims to promote walking and cycling would be undermined by the danger and intimidation posed to pedestrians and cyclists by a significantly increased PTW population

CPAG believes that PTWs driving into central London should be subject to the congestion charge. Not withstanding this, we believe that urgent action needs to be taken in London to mitigate the effects of the exemption that has been proposed.

Conclusion

This briefing note has examined some of the major factors that must be taken into account when considering policy towards PTWs, and has raised concerns about the growing trend to policies which give them favourable consideration, such as the current experimental permission for PTWs in some bus lanes in London. It is essential that, in formulating policy on these issues, Government considers the whole range of these factors, particularly road safety issues, pollution, noise and the impacts on wider policy objectives to promote healthy and environment-friendly transport options such as walking and cycling.

In the meantime, urgent consideration must be given to ways of preventing the negative impact that the congestion charging exemption for PTWs is likely to bring. Above all, Transport for London must give a commitment to review this exemption within six months of congestion charging being implemented and to keep the exemption under review thereafter, in the light of the aforementioned issues.

---

[1] PTWs include motorbikes, with or without sidecars and/or trailers, motor scooters and mopeds.
[2] *Quoted in*: C-PAG (2000) Powered Two wheelers (PTWS) in Bike and Bus Lanes, Cyclists Public Affairs Group.
[3] Department For Transport (2002), Vehicle Speeds In Great Britain 2001, Statistics Bulletin (02)21, table 5 p.13
[4] DETR (1999) Motorcycle Road Accidents: Great Britain 1998, factsheet graph 9
[5] Plowden S, Hillman, M, (1984) Danger on the road: the needless scourge. London: Policy Studies Institute, (No 627, table II.3, p 78). *as quoted in:* "Injury Prevention" 2002;8:e1; http://www.injuryprevention.com/cgi/content/full/8/2/e1
[6] DOT (1996) Transport Statistics Report, 1995
[7] Royal Commission on Environmental Pollution 20th Report 1997 p.62
[8] DEFRA (2002) Digest of Environmental Statistics, Noise, table 6.11
http://www.defra.gov.uk/environment/statistics/des/noise/index.htm
[9] DEFRA (2002) Digest of Environmental Statistics, Noise, tables 6.4(a) and 6.4(b)
http://www.defra.gov.uk/environment/statistics/des/noise/index.htm
[10] Royal Commission on Environmental Pollution 20th Report 1997 p.62
[11] Estimated London average passenger numbers used: car: 1.41, PTW: 1.04, bus: 12.5 (1999)
[12] Calculations based on the UK Emission Factor Database maintained by the National Emissions Inventory http://www.naei.org.uk and DETR (2002) Transport Statistics for London 1999
see also: DEFRA (2002) http://www.defra.gov.uk/environment/statistics/airqual/bulletin/
[13] Two –Wheeled Motor Vehicles in London, Stephen Plowden, 2002