

Report into the proposal to allow PTW to use bus lanes in Brighton and Hove.

Introduction

This report looks at the potential to allow motorcycles to use bus lanes within Brighton & Hove. It reviews DfT guidance and studies by local authorities and other organisations into other similar schemes around the UK. These examine the policy of allowing PTW in bus lanes in respect of motorcyclist safety, journey times, and impact on other road users, emissions and modal shift. It details local stake holders' views, traffic & casualty data and PTW ownership in the City, and concludes with options and recommendations.

Guidance from Central Government

DfT's Traffic Advisory Leaflet 2/07 sets out the factors to consider, and emphasises the need for careful monitoring and site analysis. This guidance has not changed since 2007, despite the introduction of the London wide scheme in January 2009 and two subsequent studies, as well as various schemes in other UK towns and cities.

Transport for London studies & their impact – 2010 and 2011

Prior to these studies, earlier monitoring had produced no statistically robust conclusions. No major concerns emerged, but motorcyclist behaviour (e.g. lane discipline) and certain site characteristics (high flows and a large number of side roads) were identified as potential problems. Roads with high numbers of junctions and high numbers of bus and taxi movements to the kerb were identified as potential issues by the study *Impacts of motorcycles in Westminster bus lanes* (TRL:2008)

An observational study of the use of Bus lanes by motorcycles and cycles (Motorcycle Industry Association 2004) looked at one bus lane in South London prior to the first trial allowing PTW to use it. Most cyclists used the bus lane, and approximately 42% of PTW were doing so illegally. Conflicts between cyclists and motorcyclists were not observed. Conflicts between buses and cyclists were identified as being the most frequent, with about 30% of buses leaving the lane to pass slow moving cyclists.

First TRL study (for TfL) 2010

The first study 10 months into the London scheme was extremely detailed, with the primary objective of assessing changes on trial and control routes, but also on the wider TLRN bus lane network. Findings included:

- A migration of PTW to main routes.
- Modal share appeared to remain relatively consistent
- Bus and general traffic lane speeds were largely unaffected
- PTW speeds had increased. On 30mph routes, the number of PTW travelling at or exceeding the speed limit increased from 37% before the change to 46.7%.
- Motorcycle Collision rates appeared to rise significantly. The increase in PTW collisions generally involved cars turning left into and out of side roads.
- The severity level of PTW collisions increased.

The study was conducted with great care taken to produce statistically robust data. However, it included just 10 months of collision data, the minimum required to accurately assess any reasonably large effects.

TFL responded to this study with an enforcement and publicity campaign.

London Borough of Ealing

Following the first TFL report, Ealing took the decision not to continue their scheme on the basis of the motorcyclist collision findings, and a numerically small but statistically significant rise in cyclist casualties (173%). Officers suggested that the most likely reason for the increase is that cyclists were riding closer to the kerb (because of motorcycles passing fast and close), making them less visible to other road users. It was felt this situation would put the borough's challenging cycling objectives at risk. Ealing's road safety campaign on bus lanes had not been evaluated, but it was felt it may not have been successful (and may need to be repeated and enhanced), and that there would on-going revenue cost implications. Other London boroughs did not follow suit.

Second TFL study 2011

The second TFL study in 2011 took great care to be comparable to the first study, using a further 10 months of data to compare with the original study's findings. The most significant findings of this study were:

- Collision rates for motorcyclists had not changed significantly from the first trial, suggesting those findings were reliable.
- Collision rates of cyclists with motorcyclists on TLRN bus lane roads increased significantly compared to elsewhere, though numbers were small.
- Motorcycle collision rates had also increased significantly on enforcement corridor sites.
- Cyclist & pedestrian collisions had not changed significantly.
- PTW Collisions predominantly involved cars and over 80% of injuries were slight.
- 40-50% of motorcyclists were exceeding speed limits, consistent with the previous trial.

London Emissions study

In 2010, London Transport Projects Ltd carried out an evaluation of journey times and emissions of PTW's in Bus Lanes for the TFL Motorcycle Policy Unit. The report investigated possible journey time savings and emissions reductions arising from allowing PTW in bus lanes.

Journeys of PTWs and cars were timed and videoed, and average journey speeds were then used to estimate emissions and fuel consumption using DFT Road Vehicle emissions database. The study found that over a comparable route length:

- PTW in bus lanes emit between 0.5 and 9% less CO2 and 0.5 to 10% less Nitrogen Oxides, depending on their engine size. The largest engines demonstrate the greatest NO2 savings.

- PTW in bus lanes use between 0.4 and 9% less fuel than those in general lanes. The largest engines demonstrate the greatest fuel savings.

The report concluded that the biggest savings on emissions and fuel consumption are with biggest PTWs, but the policy makes little or no difference for emissions and consumption of the smallest PTWs.

It also makes the assumption that the policy will promote modal shift away from car use to PTW. The study found that journeys of PTWs using bus lanes take an average of 33% less time per km than PTWs in general lanes.

Comparisons are made between the emissions produced by petrol cars of different sizes and PTWs with different engine sizes. Savings were shown in terms of NO₂, CO₂ and Fuel consumption, with the greatest savings delivered by comparing the largest cars with the smallest PTWs. Occupancy rate was not factored in, but the average UK commuting car has occupancy of 1.2 persons.

Other UK Cities

Bristol

Bristol is often compared to Brighton & Hove, although it is considerably larger. Bristol's 2006 report looked at the general safety of its entire bus lane network, which has been open to PTWs since June 1995, and is the most comprehensive available of UK authorities outside London.

Unlike Brighton & Hove, some Bristol bus lanes are not 24hr, and the study concluded that an inconsistency of part time bus lanes seem to have an adverse impact on safety. The study compared 12 and 36 months worth of data, in contrast to 10 months worth in the TFL studies. The findings included the following points:

- Accident data showed mixed results with casualties increasing in some lanes and decreasing in others. :
- 24 hour lanes appeared much safer for cyclists and motorcyclists.
- Accident data shows motorcyclists and cyclists are vulnerable to left turns across their paths from general traffic lanes.

However, since the 2006 study, Bristol City council officers have recently compiled a further 36 months worth of accident data to December 2011 on three arterial bus lanes. The three sections of road chosen are major routes into the city and highly trafficked with a significant number of side roads. This study shows increases in motorcycle casualties of between 13 and 38% compared to the three years immediately after the changes to allow motorcycles in bus lanes.

Birmingham

Birmingham City Council carried out a trial in 2008/9 focused on three routes. The study findings included:

- Traffic volumes are lower than the 'before' situation.
- PTW numbers were unchanged and remained relatively low.

- PTW use of bus lanes is dependent on perceived journey time benefits
- No change in bus or taxi journey time/reliability attributable to the introduction of PTW in bus lanes.
- No significant change in the levels of accidents for all users in the vicinity of bus lanes, with no PTW accidents being connected with the use of bus lanes.
- Allowing PTW into bus lanes reduces the number of potential conflicts with other road users and provides an overall safety benefit.

UK Urban areas comparable to Brighton & Hove

Reading

In response to BHCC enquiries, Reading Borough Council officers have not been able to produce any studies of their scheme, which covers all bus lanes outside the central area (see below). They pointed out that left turning traffic from the general traffic lane across the bus lane with the potential of conflict needed consideration. In such situations Reading have used a contrasting coloured surface that seems to have mitigated the risk of such collisions.

In the last year, the central area has been restricted to bus, cycle and taxi only with limited goods vehicle access due to the high number of pedestrian casualties. However, the A & B arterial routes remain open to PTW. No casualty data analysis of PTW on these routes has been undertaken.

Derby

The city trialled PTW in a handful of bus lanes during 2005-6. During the study period there were no injury collisions before or after. They then made these permanent and waited for a longer period before considering extending across the City. No injury collisions were recorded in the extended period, although the number of PTW using these bus lanes is relatively low and officers point out that the data collected on the two bus lanes involved is far from robust. No further extension of the scheme to other bus lanes has occurred, mainly because there has been no political pressure to do so

Brighton and Hove Stakeholders

Bus operators have not rejected the idea of sharing PTW on bus lanes outside the central area, but have reservations about central bus/ taxi lanes and bus, cyclist and taxi only roads in the central area.

Sussex Police echo this concern – they would be concerned about narrower central area bus lanes being included especially where pedestrian casualties are already an issue. The Road Policing Unit feel additional vehicles being allowed in bus lanes could encourage non authorised users to follow suit.

East Sussex Fire and Rescue Service do not have concerns about PTW which they observe are already using bus lanes illegally, but think Taxi speeds in bus lanes are a problem.

The *South East Coast Ambulance Service (SECAMB)* do not believe that motorcycles are hazardous to emergency vehicles using the bus lanes. They point out that motorcyclists are already using them and doubt that a scheme would change this significantly. SECAMB drivers are more worried about the current speeds at which the taxi drivers use the bus lanes to get around the

town and the impact of PTW festivals in central Brighton on emergency vehicle access if bus lanes are opened to PTW.

The Taxi operators themselves are split on the desirability of PTW in bus lanes. City Cabs are relaxed about it, while Streamline is opposed, citing current illegal use as hazardous. Radio cabs have yet to comment. *Bricycles* object to any proposals to admit PTW in bus lanes. They highlight the negative health and environmental impacts from emissions and noise. They suggest increased numbers of motorcycles could deter walking and cycling. They are concerned about some data indicating possible increases in PTW collisions with cyclists and pedestrians (based on CTC interpretations of DfT data). They believe the potential 'safe haven' for cyclists provided by bus lanes could be undermined by the presence of PTW. They are concerned about encroachment of PTW onto ASL's at junctions, and the need to ensure all vehicles stick to the new 20mph limits when they come into force. They note the recent A270 consultation proposed shared bus/cycle lanes did not include PTW, and feel cyclists would view this as a far less attractive option. They are concerned that even if a pilot scheme did not include the A270, there may be a gradual move in that direction. They have spoken to colleagues in the CTC and London Cycling campaign, and have looked at the TFL studies and the Emissions study. They point out both organisations are using TfL's own studies and data to dispute TfL's 'over-optimistic interpretation' which led to the decision to make the London wide scheme permanent.

East Sussex County Council

ESCC have previously stated they would like a joint review with BHCC on this issue. ESCC's Transport Planning team believe that any scheme on the A259 would prompt them to consider the situation over the boundary, as to do otherwise would result in confusion for all. Officers are working with East Sussex County Council to ensure that any scheme introduced over the boundary is fully coordinated with the Brighton and Hove City council scheme.

Brighton and Hove Data

Emissions

Emissions savings from the policy could be calculated, but officers point out that many of our air quality problems are adjacent to streets where bus lanes don't feature, or there is not enough space for one. They say such a scheme would be a welcome idea for air quality, but is not likely to make a significant difference. Officers also commented that emissions by the buses are of far greater significance.

The DfT carbon calculator (currently being trialled for 20mph studies) could be used to calculate carbon savings. Baseline data required includes traffic flow, distance and speed. Some very localised studies may be possible.

Traffic data

Snapshots of data from one calendar year (either 2010 or 2011) from traffic counters near Mill Rd on the A23, the A259 near Chailey Ave and the A270 south of Coombe Road show average motorcycle use is well below half of one percent of an average day's traffic total traffic on each site. This suggests

that even if there was the sort of modal shift suggested by the London study, emissions savings would be minimal.

Cycle counter data on the A23 and A270 up until December 2010 is held, though this may not include a full calendar year of data allowing analysis of seasonal variations. While both cycle and general traffic data does not always relate to the most recent calendar year there is enough data to allow a pre intervention analysis to compare with data collected once the scheme is in place.

Casualty data

PTW casualties are on the rise in Brighton and Hove with 125 casualties including 2 fatalities and 41 seriously injured in 2011. The 2011 figures are significantly higher than the three year average of 114, with serious casualties up 33%. In 2011, casualties on A or B roads or near their junctions represented 56% of all PTW casualties

Ownership

The DFT data on PTW registrations is used to determine ownership. They collate the data on a quarterly basis for the current year only, which identifies the difference in PTW usage during the summer months. However, for earlier years they are only able to provide the data on an annual basis, and they use the Q4 figures as representative of the year. While for other vehicle types this may be acceptable, for PTWs over 500cc in particular there are a large number that are licensed for the summer months only which are missed when looking at the Q4 figures.

Looking at the licensed vehicles by each year quarter, the numbers of licensed cars, PTWs, and HGVs have gone down over the last 4 years.

Licensed LGVs and Buses have increased slightly.

Within the PTW classes licensed in BHCC, there has been a noticeable decrease in the last 4 years in the Under 50cc, 125cc-500cc and over 500cc classes. For the 50-125cc, licensed PTWs recently increased but recent quarters are not the highest seen over the last 4 years. The increase in 125-500cc casualties cannot therefore be explained by these recent increases due to the overall decline relative to the beginning of the economic downturn.

Conclusion

Studies in London show concerns about increases in PTW casualties and speeds which have probably been caused by this policy. Left turning traffic from general lanes seemed to present the greatest hazard to PTW using bus lanes.

There may have been a knock on effect on cyclist casualties in some parts of London, but the data was not clear, though one borough was concerned enough to end their scheme. The Motorcycle industry study did not suggest cyclist/ motorcyclist clashes were an issue and studies confirmed this, though a change in cyclists' road positions may have led to a rise in collisions with all other RU's. An emissions study suggested the potential for savings but made assumptions about modal shift being entirely from large cars to PTWs, which may be unreliable.

Other UK cities' studies do not reveal similar concerns though studies and data are either not available or not robust. However, Bristol's study showed a greater risk from part-time bus lanes to PTW and cyclists, and the most recent data from Bristol suggests PTW casualties could be on the rise on bus lane corridors.

Thus far, Brighton and Hove stakeholders are not opposed to limited trial schemes on the A23, the A270 and the A259 outside the central area, but do not want to see central areas with narrower bus lanes and substantial pedestrian traffic, or bus/ taxi/ cycle corridors included. There are police concerns about enforcement.

Ownership of PTW remains low, accounting for less than 1% of traffic on selected sites. The policy seems unlikely to result in significant modal shift if studies elsewhere are anything to go by, and even if it did, the emissions and fuel savings are also unlikely to be significant.

Risks

The City has a growing road safety problem with PTWs. There is no evidence this is due to increased numbers of these vehicles. Cyclist casualties are also rising, though this may be due to increases in cycling. There is a risk that both types of road user casualties could be exacerbated by allowing PTWs to use bus lanes. However, the opportunity to engage actively with motorcycle groups over a public education campaign on bus lane use could provide wider positive outcomes in terms of making other road users more aware of the presence of PTWs.

Bus/ Taxi/ Cyclist only corridors should not be included due to the width of the lanes, because of the risk to pedestrians and other vulnerable RU's.

Options:

1. Do nothing. This would leave the council open to criticism when so many other cities have permanent schemes.
2. Allow total access to bus lanes within the City boundaries – this would create greater risk of conflict between road users and would not deliver significant benefits – as previously explained
3. Allow access (either on a trial or permanent basis) to specified bus lanes (subject to formal risk assessment) These could include
 - A270 Lewes Road (north of the Gyratory) – could create problems with any new road layout arising from the recent LSFT consultation. The construction of the new bus lanes may not be completed for another calendar year, and could hold up the trial.
 - A23 London Road between Patcham and Preston Drove – could create problems further south on A23
 - A259 between Saltdean and Rottingdean - subject to ESCC approval be this could be extended as far as Telscombe Cliffs) and Ovingdean to Rottingdean e/b.
4. Introduce limited hours access to bus lanes for PTWs. Bristol Research has indicated that this approach can create confusion for PTW's and other bus lane users and may have an adverse affect on safety.

Recommendations

Anecdotally the A259 (Saltdean/ Rottingdean/ Ovingdean) bus lanes are currently used by many PTWs especially at peak times to avoid the congestion. There is no evidence that this has resulted in any increase in road user conflict, although it is currently unlawful. Legalising usage would increase PTW's in the bus lanes by around 10%.

To trial the use of that bus lane would seem acceptable, especially as there are very few left turn opportunities to create the risk of conflict that the studies undertaken have identified as a potential hazard. The down side to this trial is that the lack of junctions to the left mean it is not typical and therefore not a good guide to how a typical layout might operate. However, it would enable PTW riders to avoid the congestion on the A259 lawfully; in other words sanctioning what is already to a large extent happening anyway

To provide a more representative trial it may be reasonable to allow PTWs to use the A23 bus lanes between Patcham and Preston Drove for a period of 12 months. There are numerous junctions and entrances along this stretch of road, so it could prove a more reliable and representative trial for PTW use than the A259.

There are some caveats to any trial period:

- Any trial would need to be implemented by way of a structured project with identified funding and project lead officer
- The trial area must be monitored at sites in areas with at least 4m width bus lanes and significant stretches of continuous bus lane.
- Monitoring should include traffic counts, video surveys and speed surveys
- Six junctions along the A23 bus route will require treatment with coloured surfaces to mark the path of the bus lane clearly across them. (No through roads will not be treated).
- Temporary TRO's and changes to signage will be needed to conform to legislation.
- A comprehensive promotion and publicity campaign is required to make the parameters of the trial clear to all road users across the City.
- If it is clear during the trial that road safety has been significantly adversely affected there must be an option to end the trial immediately and rescind the TRO allowing PTWs to use the bus lane/s in that particular area.