

Transport and Environment Committee

10:00am, Tuesday, 1 November 2016

Bus Lane Network Review – Outcome of the Experimental Traffic Regulation Orders Trial

Item number	7.6
Report number	
Executive/routine	Executive
Wards	

Executive Summary

In its latest Local Transport Strategy, the Council states that it will continue to maintain Edinburgh's bus lane network, review it regularly and extend or enhance it where opportunity arises.

Following a previous review, the Council agreed to implement Experimental Traffic Regulation Orders to standardise bus lane operational times and to permit motorcycles to use them when they are in operation.

The 18 month Experimental Orders expire on 27 March 2017. This report summarises the outcomes of the trial and recommends that a permanent alteration is made to the existing bus lane hours and that motorcycles are permitted to use bus lanes when they are operational.

Links

Coalition Pledges	P19
Council Priorities	CP11
Single Outcome Agreement	SO4

Bus Lane Network Review – Results of Experimental Traffic Regulation Trial

1. Recommendations

- 1.1 It is recommended that Committee:
 - 1.1.1 notes the findings of the surveys carried out to evaluate the Experimental Traffic Regulation Order which has converted all day bus lanes to peak hour operation only;
 - 1.1.2 approves the promotion of a Traffic Regulation Order to make the permanent alteration to the operating times of the all day bus lanes, converting them to peak hour and to permit motorcycles to use with flow bus lanes during operational hours; and
 - 1.1.3 notes that the extent of the bus lane network and the hours of operations will continue to be reviewed and requests for amendment, particularly from bus operators and cycling groups, will be reported back to Committee in the future; and
 - 1.1.4 notes that investigations will be undertaken on the feasibility of providing cycle facilities within existing bus lanes.

2. Background

- 2.1 A report to Committee on 26 August 2014 summarised the Council's review of bus lane operational hours and the classes of permitted vehicles.
- 2.2 On 2 June 2015, Committee gave approval to make two Experimental Traffic Regulation Orders to convert all day bus lanes to peak hour operation only and to permit motor cycles to use with-flow bus lanes during their operational hours.
- 2.3 This Committee also noted that the results of the trial of these Experimental Traffic Regulation Orders would be reported in autumn 2016, with a view to making a permanent change to the substantive Traffic Regulation Order, to be implemented after the experimental orders have expired.
- 2.4 The list of roads affected by these two experimental orders is included in Appendix 1.

3. Main report

- 3.1 As the bus lane network has been developed in Edinburgh, three operational control times have been used. All day Monday to Saturday, peak time weekdays and 24 hours seven days a week.
- 3.2 Following the introduction of decriminalised bus lane camera enforcement in Edinburgh in 2012, feedback received by the Council was that there was confusion over the different operating times of bus lanes across the city.
- 3.3 A decision was taken to undertake a review of the city's bus lane network, which would include both the operating times of the lanes and the classes of vehicles that are permitted to use them during operating hours.
- 3.4 The results of this review were reported to Committee on 26 August 2014. A decision was taken to start the statutory procedures for experimental traffic regulation orders standardising bus lane operating hours, by changing all day bus lanes to peak hour operation. It was also agreed, on a trial basis, that motorcycles be permitted to use with-flow bus lanes.
- 3.5 On 2 June 2015, The Transport and Environment Committee set aside the objections to these Experimental Orders and approved their implementation. Committee noted that the before and after monitoring of these Experimental Orders would be reported to Committee in autumn 2016.
- 3.6 These Experimental Orders were implemented on street in October 2015 and expire in March 2017.
- 3.7 To measure the effects of these Experimental Orders, before and after data has been collected which includes qualitative data from user group opinion surveys. The results of the analysis of this data are outlined below.

Before and After Survey Results

Bus Journey Times

- 3.8 Lothian Buses have collected and analysed bus journey times for this study and have provided the following statement for inclusion in this report:

“Lothian Buses has compared the bus transit times along a range of bus lane corridors during a six week period in 2014 and the same period in 2015. The range of corridors included some which were already peak only but the majority changed to peak in 2015. The analysis did not show a conclusive effect on transit times but did show a consistent marginal increase.

There are many factors which contribute to increased bus journey times but traffic congestion is a significant one. Bus lanes are an effective mitigation measure for congestion and as such their provision is important in encouraging modal shift to public transport. The bus lane network needs to be regularly reviewed to identify new locations as well as identifying redundant lanes. For bus lanes to be effective they need to be kept clear during their hours of operation; this requires enforcement of parking and loading restrictions which are frequently ignored particularly in the vicinity of hotels and urban supermarkets.”

Motorcycles

- 3.9 Video surveys were conducted on 14 peak hour bus lanes to record overtaking and conflicts between cyclists and motorcyclists. From the data collected there were very few occasions where motorcyclists were recorded overtaking cyclists. The only recorded interaction between cyclists and motorcyclists was on Slateford Road at the Caledonian Brewery and this was because of cars parked within the lane.
- 3.10 Allowing motorcyclists to use bus lanes did not lead to any recorded incidents during the trial. Permitting this class of vehicle to use this lane will improve safety for motorcycles using these corridors.

Traffic Volumes and Speeds

- 3.11 Speed and volume data was also collected for the survey sites. Analysis of this data was inconclusive with volumes and speeds increasing at some sites whilst reducing at others.

Collision Data

- 3.12 The City of Edinburgh Council maintains a database of validated personal injury accidents which are collected and vetted by Police Scotland. There is a time lag between the data being collected and supplied to this Council. The records on the Council database are currently up to the end of February 2016 and it is considered that there is not a sufficient enough after period for a meaningful comparison.

Attitudinal Surveys

- 3.13 Face to face interviews were conducted between 29 July and 16 August 2016 on streets where the bus lane had been amended by the Experimental Traffic Regulation Orders. The target groups were pedestrians over 65, pedestrians with young children (under 12) and people cycling. Interviews were conducted at varying times of day and week to ensure a cross section of interviewees. A total of 795 interviews were carried out.
- 3.14 Analysis of this survey suggests that there is a perception amongst a significant part of the group that traffic conditions have worsened in the past year. However, it is encouraging to note that the majority feel there is no change.
- 3.15 To analyse this further, the perception of cars and vans in bus lanes, the perception of vehicle speed, the perception of the safety of the street and the perception that the street is less safe for walking or cycling have been cross tabulated against the question of when bus lanes should operate in Edinburgh on week days.

- 3.16 A majority of respondents (53.1%) prefer week day peak time bus lanes. When cross tabulated against the perception of an increase in cars and vans, of the people who consider volume has increased, 54.4% of these stated a preference for peak time lanes. Where it was considered that there was no change in volume, 52.5% preferred peak time lanes. This would suggest that perception of more cars and vans does not appear to influence the preferred bus lane operational time.
- 3.17 When analysed against a perceived increase of speed in bus lanes, support for 24 hour lanes increase to 33.9% and the preference for peak hour lanes drops to 44.4%. Where it is considered that speeds have not changed, 21% support 24 hour lanes and 59.3% prefer peak time lanes. The stated preference for hours of operation does appear to change with perceived speed. However, speeding could be targeted separately by other interventions such as reduced speed limits.
- 3.18 When asked if there is a perceived change in the safety of the street, for those who felt conditions were safer, 44.3% prefer peak time lanes. Where it was considered there was no change, 57.7% opted for peak hour lanes reducing to 43.5% when it was considered to be less safe.
- 3.19 Respondents were also asked on their views about the change in the street whilst walking or cycling and 46.1% who considered conditions had improved supported peak time lanes. For those who felt there was no change, 57.6% supported peak hour operation and for those who thought conditions had deteriorated, 40.8% supported peak hour lanes.
- 3.20 When asked if bus lanes should operate at the weekend, 63% considered that they should operate at the weekend.
- 3.21 The results of this survey have been shared with Spokes and Living Streets. A copy of their responses has been included in Appendix 2.

Air Quality Analysis

- 3.22 Concentrations of pollutants in the atmosphere vary from year to year and it is difficult to make a direct comparison. This is largely due to weather effects, which can differ each year and vary from month to month. Therefore, short term monitoring studies are unlikely to produce robust air quality data. To assess changes in air quality, data trends should be monitored over a minimum period of six years.
- 3.23 The Emissions Factor Toolkit (EFT) is used for air quality modelling and assessment studies which assists local authorities in their duties under the Environment Act 1995. The Toolkit provides emission outputs of nitrogen oxides (NO_x) and particles (PM₁₀) for different vehicle types for specific years and road types. Emission outputs are a function of vehicle composition, volume and speed and are expressed as grams per kilometre or grams per kilometre per second. These cannot be compared with units for air quality standards which, are concentrations in ambient air, however when assessing a before and after scenario an 'emission' change can be used as an indicator.

3.24 The EFT assessment using the traffic data collected indicates that there is no significant increase in emissions post study at the majority of the sites. However, it should be noted that the study is only indicative and it will be influenced on how HDVs (buses and heavy goods vehicles) were categorised in the pre and post traffic surveys.

Parking in bus lanes

3.25 Before and after data was collected for bus lane parking and this was reviewed using four criteria:

- Are more people parking during the day?
- Are more people parking for longer?
- Is there more incorrect parking during the day?
- Is there more incorrect parking during peak hour?

3.26 The conclusion of the analysis of this data is that it is not clear from the survey results whether the changes to the bus lane operating times have resulted in any changes to parking patterns on the streets concerned.

Impact on cycling

3.27 A consideration of the before and after data collected was to monitor the impact on cyclists. In particular, the videoing of potential conflicts between cyclists and motorcyclists, volume and speed surveys, parking in bus lanes and face to face interviews with cyclists.

3.28 The comparison of before and after data did not identify any significant issues for cyclists during the trial period.

3.29 The provision of improved cycle infrastructure within bus lanes will be investigated in addition to ongoing city wide cycle infrastructure improvement schemes.

3.30 Calder Road is an example of a road that warrants consideration of amended bus lane operational hours. It provides a cycle link to destinations including Napier and Heriot Watt Universities. However, it is a dual carriageway with a 40mph speed limit. 24 hour bus lanes could encourage greater cycle use in this area and will be given consideration.

4. Measures of success

4.1 Comparison of the before and after data has not identified any significant issues with the experiment to standardise bus lane times and to permit motorcycles to use with-flow bus lanes.

4.2 Retaining the peak hour operational hours introduces a single operational category for approximately 90% of the city's bus lane network. This should reduce driver's confusion with operating hours and reduce the need for any enhanced bus lane signage.

5. Financial impact

- 5.1 The cost to make the Experimental Traffic Regulation Orders permanent is estimated to be £5,000. This will be funded from the current bus lane Penalty Charges Notices' revenue.
- 5.2 The existing signage would be retained so no additional money would be required to make the orders permanent.

6. Risk, policy, compliance and governance impact

- 6.1 The recommendations in this report do not impact on any existing policies of the Council.
- 6.2 There are not expected to be any health and safety, governance or compliance implications, arising from the proposals set out in this report.

7. Equalities impact

- 7.1 The bus lane proposals will affect cyclists, by reducing the amenity provided by bus lanes. Spokes will be consulted, regarding any proposal to permanently make all-day bus lanes into peak period lanes.

8. Sustainability impact

- 8.1 The impacts of this report, in relation to the three elements of the Climate Change (Scotland) Act 2009 Public Bodies Duties, have been considered and the outcomes are summarised below:
- 8.2 Relevant Council sustainable development policies have been taken into account.
- 8.3 The proposals in this report will:
 - reduce carbon emissions as the adjustment/removal of ineffective bus lanes, will improve traffic flow, reduce congestion and carbon emissions thus making a contribution to better air quality in the city; and
 - help to achieve a sustainable Edinburgh because an improved transport system, based on sustainable alternative to the car, will reduce congestion and enable everyone to have the best possible access to jobs and essential services.

9. Consultation and engagement

- 9.1 As part of the statutory process required to make these orders permanent, they will be formally advertised, to allow any interested party to comment or object to the proposals. The relevant Neighbourhood Partnerships, will also be consulted.

10. Background reading/external references

- 10.1 Transport and Environment Committee (2 June 2015) – Bus Lane Network Review – Objections to the Experimental Traffic Regulation Orders.
- 10.2 Transport and Environment Committee (26 August 2014) – Bus Lane Network Review.
- 10.3 Transport and Environment Committee (4 June 2013) – Bus Lane Camera Enforcement Expansion and Bus Lane Network Review.

Paul Lawrence

Executive Director Place

Andrew Renwick, Senior Transport Team Leader, Public Transport

E-mail: andrew.renwick@edinburgh.gov.uk | Tel: 0131 338 5842

11. Links

Coalition Pledges	P19 – Keep Lothian Buses in public hands and encourage the improvement of routes and times.
Council Priorities	CP11 – An accessible connected city.
Single Outcome Agreement	SO4 – Edinburgh’s communities are safer and have improved physical and social fabric.
Appendices	Appendix 1 – Lists of Roads Affected Appendix 2 – Bus Lane Questionnaire Results

Appendix 1 – List of roads affected

Roads where it is proposed that the permanent TRO is amended to allow use by motorcycles:-

A1, southbound slip road (at Fort Kinnaird),	Haymarket Terrace,	Portobello High Street,
Balgreen Road,	Hillhouse Road,	Portobello Road,
Bankhead Drive,	Howdenhall Road,	Potterrow,
Barnton Junction,	Inverleith Row,	Princes Street,
Broomhouse Drive,	Lanark Road,	Queen Street,
Bruntsfield Place,	Leith Street,	Queensferry Road,
Burdiehouse Road,	Leith Walk,	Roseburn Terrace,
Calder Road,	Leven Street,	Slateford Road,
Clerk Street,	Liberton Brae,	South Bridge,
Comiston Road,	Liberton Gardens,	St Andrew Square,
Commercial Street,	Liberton Road,	St John's Road,
Corstorphine Road,	Lindsay Road,	St Patrick Square,
Craigmillar Park,	London Road,	St Patrick Street,
Dalkeith Road,	Lothian Road,	Stenhouse Drive,
Dalry Road,	Lothian Street,	Stenhouse Road,
Drum Brae South,	Mayfield Gardens,	Stevenson Drive,
Duddingston Park,	Melville Drive,	Stevenson Road,
Duddingston Park South,	Milton Road,	South Clerk Street,
East Preston Street,	Milton Road East,	South Gyle Access,
Earl Grey Street,	Milton Road West,	South Gyle Broadway,
Ferniehill Drive,	Minto Street,	Straiton Road,
George IV Bridge,	Morningside Road,	Telford Road,
Gilmerton Road,	Newington Road,	West Approach Road,
Glasgow Road,	Nicolson Street,	West Coates,
Gorgie Road,	North Bridge,	Willowbrae Road,
Great Junction Street,	North Junction Street,	York Place.
	Old Dalkeith Road,	
	Peffermill Road,	

Roads where it is proposed that bus lanes are amended to peak hour operation, Monday to Friday:-

A1, southbound slip road (at Fort Kinnaird),	Gorgie Road,	Queen Street
Balgreen Road,	Great Junction Street	Slateford Road,
Bankhead Drive,	Lanark Road,	St Andrew Square,
Broomhouse Drive,	Leith Street,	Stenhouse Drive,
Bruntsfield Place,	Leith Walk,	Stenhouse Road,
Calder Road,	Leven Street,	Stevenson Drive,
Commercial Street,	Lindsay Road,	Stevenson Road,
Dalry Road,	Lothian Road,	South Gyle Access,
Earl Grey Street,	North Junction Street	South Gyle Broadway,
	Princes Street,	West Approach Road,
		York Place.

Comments received from Spokes 9 September 2016

CEC SURVEY OF ROADS WITH REDUCED BUS-LANE HOURS

BRIEF COMMENTS ON SURVEY RESULTS

A. Public perception is that traffic conditions are worse than a year ago. In nearly all the following questions 20%-40% of respondents felt conditions were now worse against 3%-10% who felt they were better.

3e speeding in bus lane [making it harder to cross, 4a]

3f parking in bus lane

4 crossing the street [won't be helped by 3f]

5 journeys take longer

10 feels less safe to cyclists [too much traffic top reason, speeding 2nd reason, 11]

12 street is worse to walk or cycle [too much traffic top reason, speeding 2nd reason, 13]

B. Awareness of bus-lane time changes

14 Majority unaware of the change of timings, so it would appear that views on road conditions (above) were probably due mainly to actual experience rather than to what they thought changing the bus lane times might do.

C. Views on hours of operation

15 45% would like to see longer hours, including 26% who would like to see full-time operation. Only just over half wanted the restricted times. However, this is a fairly close result and should not outweigh all the other factors, including the above perceived worsening road conditions for walking and cycling, and all the points in our original submission.

D. Weekend operation

16 A 63%-37% result is pretty convincing, and supports the arguments in our original submission. If the aim is also to reduce driver confusion, then 7-day operation is by far the clearest of all options. As regards Sundays in particular, the Council's decision to introduce Sunday parking restrictions indicates that the Council is already well aware that traffic conditions are far from ideal on Sundays. Bringing in bus lane operation would be a significant boon, and would also be assisted by the new parking restrictions.

E. Cyclist responses

Note – I have not had time to look at the subset of responses by pedestrians and have only looked briefly at the cyclist responses.

However it is clear that on all the issues in (A) above cyclists had noticed the deterioration in road and traffic conditions more strongly than had the average respondent in the survey. **In other words, those road users who spend virtually all their time in the bus lanes were those who most frequently had recognised a deterioration in conditions.**

ADDENDUM - VIDEO OF BUS LANE ROAD DANGER

By coincidence, we have just seen a tweet by a cyclist who experienced a frighteningly close pass by a motorist in a bus lane, which was recorded on his helmet camera - first the back view, then the front view after he was overtaken. This is a clear demonstration of the unnecessary real danger, and the off-putting fright, which can be, and is, caused to cyclists as a result of this experiment. This reason alone is sufficient to mean that bus lanes should be free from private motor traffic whenever possible.

The [video](#) is here and the original tweet [here](#).

The video ties in well with the point made in (E) above about cyclists, the users of the bus lanes, particularly noticing a deterioration in conditions during the experiment. It is also clear from the video that there was absolutely no need for the motorist to be in the bus lane; there was plenty room in the main traffic lane. Whereas, being in the bus lane, and travelling fairly fast, the motorist appears to feel it more important not to cross the bus lane white line than to obey the highway code and pass a cyclist at a safe distance.

Comments received from Living Streets 28 September 2016

Spokes comments on the survey results are endorsed and would add the following points from a walking perspective.

The most significant results appear to centre on crossing activity. They show evidence of increased difficulties for crossing as perceived by many pedestrians, with 35% experiencing difficulties (Q4) and 32% taking longer to cross (Q5). This suggests that there may have been a significant impact on crossing activity and crossing opportunities for pedestrians.

Speeding vehicles and a lack of sufficient crossing times (at controlled crossings) were cited as the main contributory factors (4a), but it may also be significant that a similar proportion of respondents (33%) considered conditions had worsened in terms of traffic volumes (Q13).

Similar problems for pedestrians are also reflected in the 24% figure for those feeling less safe (Q 10).

From the (minority) positive responses to Q13 that indicated better conditions, it seems that works in one or more street sections have widened pavements and improved pavement conditions (resurfacing most likely?). This makes interpreting the results and separating out any effects from the bus lane and traffic changes more difficult. It would be helpful if there could be a breakdown of the responses, with separate tables for those interviewed on streets where improvements had and had not taken place.

More importantly the results, as received so far, did not include any breakdowns of the responses for pedestrians by age or by child accompaniment or mobility handicap. I assume that this analysis has been undertaken and that the tables will be available in due course. These breakdowns are essential in order to assess any impacts since the problems so far identified only in general terms are likely to be overwhelmingly concentrated in the elderly, the child accompanied, and the mobility handicapped groups. Fit adults do not generally experience great problems in crossing even the busiest of roads and it would be surprising if the results for the perceptions for the younger fit adults showed very significant changes over the year. By contrast we know that many frail, elderly pedestrians often do not even attempt to cross such roads at all, and their crossing activity is at risk of intimidation from any changes that make perceived conditions worse.

The sample sizes for specific kinds of mobility handicap are very small, with no quota sampling having been undertaken for these groups. The collective breakdown for the aggregate of those in wheelchairs or with physical walking aids would still be of interest however. 14% of interviewees indicating some form of disability (Q17), so a breakdown of the responses from this self-identified group should highlight significant differences for the physically disabled.

The tables for adults with buggies, and for those accompanied with children under 12, would also be of particular interest.