Report of the Director of Strategic Partnerships,
Planning and Streetpride

TRAFFIC CONTROL AT ROUNDABOUTS

SUMMARY

1.1 Included in the report are broad explanations of the benefits and dis-benefits of signal control on traffic islands/roundabouts. The information is generic and does not seek to justify or defend any existing or future signal control of roundabouts.

RECOMMENDATION

2.1 To note the contents of the report.

REASONS FOR RECOMMENDATION

3.1 To provide Board and others with an explanation of the issues and factors to consider when determining the most appropriate form of traffic management on parts of the highway network.

SUPPORTING INFORMATION

4.1 The highway network serving our city is complex and, particularly at peak travel times, under significant pressure. Traffic growth is projected to rise considerably in the next few years reflecting growth in jobs and housing not only within the city but in the wider region. Managing the way traffic uses our road is increasingly necessary in order to ensure that our existing infrastructure operates as efficiently and effectively as possible.

4.2   Traffic signal control is a key element of our overall network management strategy. Traffic signals allow the flow of vehicles to be controlled rather than relying upon natural priorities at junctions. This means that instead of traffic finding its natural level, with dominant flows taking priority we are able to control route choices and able to manage, to an extent, where traffic queues and when. It is important that the Council takes a wider perspective, beyond that of the individual driver, when making decisions about what is best for overall network management. The Council has a legal duty to effectively manage traffic, whilst balancing the needs of all road users. The regulations and guidance promote the use of technology solutions to make the best use of the currently available road network.

4.3   Traffic signals at most junctions provide an ability to balance traffic flows. For example where side roads join a busy route there can be significant delays for people wishing to exit the junction. Signals allow the main road flow to be interrupted and for vehicles form the side road to emerge safely. This will provide benefit for the side road but of course this can only be done at the expense of interrupting flow on the main road.

4.4   At traffic islands the introduction of traffic signals can, in some instances, provide an overall increase in capacity. Complex and congested junctions, for example junctions on the inner ring road including the two roundabouts at either end of Bradshaw Way, can work more efficiently through effective traffic control during peak demand periods. However, in the majority of instances and for the majority of time traffic signals at roundabouts do not improve traffic flow generally. Instead traffic signals allow control of the junction. It allows a conscious decision to be taken to decide which routes into the junction have less delay or a decision about where a vehicle queue will have less impact on network performance or other local factors.

4.5   Most motorists see traffic signals and other forms of traffic control as applying constraints to their progress. One of the most valuable and necessary benefits arising from the use of traffic signals is the benefits to none motorised users. Traffic signals allow pedestrians to cross safely and also enable enhanced cycling facilities including advanced stop lines and shared crossings to be provided. Without these facilities many complex road junctions are potentially barriers to many people.

4.6   Current traffic signal control systems are sophisticated and generally robust. Systems can link the control strategies of several junctions to ensure that the area is effectively managed and can ensure that signal timings and priorities are varied to suit traffic and other conditions. The Council operate an Urban Traffic Management Control system that allows us to get the best out of the equipment and technology and ensure that our network operates as efficiently as possible at all times. Traffic signal equipment is maintained by a contractor with 16 hour cover and with maximum fault response times built in.

4.7   Members will be aware of the recent problems with traffic signals at the Kingsway retail park junction. This junction has been enlarged and enhanced in order to enable additional development to access the main road network with the scheme being designed and constructed by third parties. The development of around 600 homes on the former Manor Kingsway site will introduce new vehicle movements and new routes for pedestrians and cycles at this already busy location. The traffic signals will be essential in ensuring that the new movements can be accommodated safely.

4.8   An internal inquiry into the particular problems at this new junction and the operation of the traffic signals is currently being undertaken. A concluding report will identify any failures in the design and in our decision making processes. The report will be available in the near future along with an external third-party technical review of the junction design and operational options for the future.

OTHER OPTIONS CONSIDERED

5.1   None

This report has been approved by the following officers:

Legal officer	n/a
Financial officer	n/a
Human Resources officer	n/a
Estates/Property officer	
Service Director(s)	Tim Clegg, Director of Strategic Partnerships, Planning and Streetpride
Other(s)	

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Background papers:	None
List of appendices:	Appendix 1 – Implications

IMPLICATIONS

Financial and Value for Money

1.1   None

Legal

2.1   None

Personnel

3.1   None

IT

4.1   None

Equalities Impact

5.1   None

Health and Safety

6.1   None

Environmental Sustainability

7.1   None

Property and Asset Management

8.1   None

Risk Management and Safeguarding

9.1   None

Corporate objectives and priorities for change

None