

ABERDEEN CITY COUNCIL

COMMITTEE	City Growth & Resources Committee
DATE	25 April 2019
EXEMPT	No
CONFIDENTIAL	No
REPORT TITLE	Performance of Junctions Associated with the AWPR/B-T
REPORT NUMBER	RES/19/220
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REPORT AUTHOR	John Wilson
TERMS OF REFERENCE	2.3

1. PURPOSE OF REPORT

The purpose of this report is to demonstrate and advise the Committee, that robust analysis of the performance of the new AWPR/B-T main junctions has been carried out, and that there are no significant impacts now that AWPR/B-T is fully operational.

2. RECOMMENDATION(S)

That the Committee :-

- 2.1 Accept the contents of the analysis and modelling carried out by the AWPR/B-T Technical Advisors, with respect to the anticipated operation and performance of the main AWPR/B-T junctions.

3. BACKGROUND

- 3.1 A number of Paramics models were developed by the AWPR/B-T Technical Advisor as part of the Aberdeen Western Peripheral Route (AWPR) commission and were utilised in the assessment of the operational performance of the various junction designs where the proposed AWPR would link to the existing road network. The key junctions where the paramics models were used are:

- A90 North of Aberdeen at Blackdog;

- A947 North of Dyce at Goval;
 - A96 at Craibstone;
 - North Kingswells (Limited Access, north facing slip lanes only);
 - A944 between Kingswells and Westhill;
 - A93 at Milltimber Brae;
 - A90 at Cleanhill;
 - A90 at Stonehaven;
 - A92 (formerly A90) South of Aberdeen at Charleston, also connecting to the A956 Wellington Road;
- 3.2 At each junction location a range of design layouts were assessed using the Paramics microsimulation software to determine their respective operational performance. The traffic demand input to the Paramics models was based on, or developed from, the Aberdeen Sub-Area Model (ASAM).
- 3.3 The scheme was promoted and consented based on the ASAM3B model developed in 2007 and tested against an opening year of 2012 and design year of 2027 (year of opening plus 15 years.)
- 3.4 Following the Public Local Inquiry in 2008 subsequent legal challenges thereafter resulted in delays to the overall procurement process which means that the scheme opening year is now 2019.
- 3.5 In March 2017 Aberdeen City Councillor Marie Boulton presented a Note of Motion to Aberdeen City Council which was subsequently agreed and stated:
- 3.5.1 “To instruct the Chief Executive to liaise formally with the AWPR/B-T funding partners to provide a report to the Communities Housing and Infrastructure Committee before the end of 2017 in respect of the capacities of the junctions associated with the AWPR/B-T within the Aberdeen City boundary. This information is essential in determining if there are sufficient capacities for existing traffic and for future development within the Aberdeen City boundary”.
- 3.5.2 Subsequently the AWPR/B-T Managing Agent requested that a report be produced to address all junctions on the AWPR. That report is attached as Appendix A.
- 3.6 At the time of the Notice of Motion, the Aberdeen Sub Area Model was in the process of being updated, and it was agreed that outputs from the updated model, would be provided when that work was complete, and that these outputs would form the basis of this junction capacity assessment.
- 3.7 The ASAM18 model takes account of local and regional committed land use developments and infrastructure and provides a forecast scenario of network conditions following the AWPR/B-T project being fully opened to use. It should be noted that the ASAM model assumes that travel patterns are stabilised

based on road users being aware of their optimal route. In practice this is likely to take several months for road users to reach this level of familiarity with the benefits provided by the new infrastructure, including local transfers of traffic onto existing roads where flows have reduced following transfer of traffic onto the AWPR/B-T roads.

- 3.8 In undertaking the detailed design of the AWPR/B-T project, Aberdeen Roads Limited, the project contractor, has prepared Paramics models reflecting the final detailed design agreed in consultation with the relevant parties. Although these designs are similar in nature and to a large extent in detail to the designs that were described within the reports submitted to the Public Local Inquiry, there are some changes in detail. Where these changes have an effect on the performance of a junction they are described within the part of the appended report assessing the performance of that junction.
- 3.9 The appended report details how the traffic demand levels have been extracted from ASAM18 and applied to the Paramics models prepared by Aberdeen Roads Limited, and presents the finding of the assessment of each of these junctions in respect of the updated traffic volumes.
- 3.10 At the time of writing this report, all sections of AWPR/B-T are now open to traffic. The final section between Craibstone and Parkhill (Goval) opened on 19 February 2019. This final section followed road openings between Craibstone to Charleston and Stonehaven in December 2018, Balmedie and Tipperty in August 2018, Parkhill (Goval) and Blackdog in June 2018, and the Craibstone Roundabout and Dyce Drive section in September 2016.
- 3.11 Although travel patterns and traffic volumes will take some time to become established following opening to use of the whole project, it is possible to make some general observations of junction performance in operation to date:

Stonehaven Junction

To date the junction has performed well and it is considered that queuing and delays at this junction are not excessive.

Charleston Junction

To date the junction has performed well and it is considered that queuing and delays at this junction are not excessive.

Cleanhill Junction

To date the junction has performed well and it is considered that queuing or delays at this junction are not excessive. It has been noted that there has been an issue with driver perception of this junction and yellow transverse road markings have been installed on all approaches to improve driver awareness.

Milltimber Junction (Signed as Deeside Junction)

To date the junction has performed well and it is considered that queuing or delays at this junction are not excessive.

South Kingswells Junction (Signed as Kingswells South Junction)

To date the junction has performed reasonably well, although instances of queuing and delay on the diverging slip roads have been observed during some peak periods. These are likely to be occurring as a consequence of the volume of traffic on the A944 not providing the expected frequency of sufficient gaps to allow traffic to enter the roundabout from the diverging slip roads. There have also been reports of some issues of driver perception of this junction in relation to the signalised crossing of the southbound diverge slip road. It is noted that Condition 23 of the Decision Notice approving the planning application by Aberdeen FC Community Trust & Aberdeen Football Club Plc for a new stadium at Kingsford includes reference to the potential for this junction to be made fully signalised in future.

The AWPR/B-T technical advisors are also conducting daily surveys of this junction, to monitor the performance of the junction, particularly with regard to queuing on the slip roads.

North Kingswells Junction (Signed as Kingswells North Junction)

To date the junction has performed well and it is considered that queuing or delays at this junction are not excessive.

Craibstone Junction

To date the new at-grade roundabout on the A96 has performed well and it is considered that queuing or delays at this junction are not excessive.

Goval Junction (Signed as Parkhill Junction)

This junction only came into full use on 19 February 2019, so there is little evidence so far to gauge current operational performance, suffice to say that to date, queuing or delays at this junction are not excessive.

Blackdog Junction

To date the junction has performed well and it is considered that queuing or delays at this junction are not excessive.

4. FINANCIAL IMPLICATIONS

- 4.1 There are no direct financial implications arising from the recommendations of this report.

5. LEGAL IMPLICATIONS

- 5.1 There are no direct legal implications arising from the recommendations of this report.

6. MANAGEMENT OF RISK

	Risk	Low (L), Medium (M), High (H)	Mitigation
Financial	That early intervention is required by Aberdeen City Council to improve the performance of a junction, by carrying out physical works to the geometry.	Low	Analysis and modelling carried out on the final junction designs do not indicate that such intervention is likely.
Legal	N/A		
Employee	N/A		
Customer	N/A		
Environment	That performance of the junctions leads to increased traffic congestion leading to higher CO2 emissions.	Low	Where traffic signals are present, Aberdeen City Council will possess the ability to alter timings and sequences to improve the operation of the junction.
Technology	N/A		
Reputational	That performance of the junctions does not meet the expectations of the analysis and modelling, leading to reputational harm for ACC.	Low	Where traffic signals are present, Aberdeen City Council will possess the ability to alter timings and sequences to improve the operation of the junction.

7. OUTCOMES

Local Outcome Improvement Plan Themes	
	Impact of Report
Prosperous Economy	Performance of AWPR junctions link to the improvement measure of reducing journey times for commuter, visitor and freight transportation
Prosperous People	N/A
Prosperous Place	Performance of AWPR junctions link to the improvement measure of creating an attractive and welcoming environment for visitors to various communities
Enabling Technology	N/A

Design Principles of Target Operating Model	
	Impact of Report
Customer Service Design	N/A
Organisational Design	N/A
Governance	N/A
Workforce	N/A
Process Design	N/A
Technology	N/A
Partnerships and Alliances	N/A

8. IMPACT ASSESSMENTS

Assessment	Outcome
Equality & Human Rights Impact Assessment	Not required as this proposal would not impact on any of the groups with protected characteristics.
Data Protection Impact Assessment	Not required.
Duty of Due Regard / Fairer Scotland Duty	Not applicable.

9. BACKGROUND PAPERS

None.

10. APPENDICES (if applicable)

Appendix A

AWPR/B-T Technical Advisor report –
Aberdeen Western Peripheral Route: ASAM18: Junction Performance
Link below:-

<https://committees.aberdeencity.gov.uk/ecSDDisplay.aspx?NAME=SD1923&ID=1923&RPID=26251522>

11. REPORT AUTHOR CONTACT DETAILS

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