

# PERTH & KINROSS COUNCIL

## PERTH BRIDGES STRUCTURAL MAINTENANCE

### TRAFFIC MODELLING ASSESSMENT – EXECUTIVE SUMMARY

IDENTIFICATION TABLE	
Client/Project owner	Perth & Kinross Council
Project	Perth Bridges Structural Maintenance
Title of Document	Traffic Modelling Assessment – Executive Summary
Type of Document	Executive Summary
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## 1. TRAFFIC MODEL ASSESSMENT

### 1.1 Introduction

- 1.1.1 SYSTRA was commissioned by Perth & Kinross Council in April 2019 to provide traffic modelling support around plans for structural maintenance of Perth (Smeaton) and Queen's Bridge, Perth.
- 1.1.2 The proposed works will require separate temporary closures (for up to 6 months) of the bridges to facilitate inspection and repair. PKC wish to understand the potential implications of proposed temporary traffic management arrangements, and whether the works should be postponed until after the opening of the proposed Cross Tay Link Road (CTLR- due April 2024).
- 1.1.3 The objectives of the study were to carry out a traffic management impact assessment of proposed lane closures on Perth Bridge (Smeaton Bridge) and Queen's Bridge.
- 1.1.4 This note provides an executive summary to the main modelling report: *Perth Bridges Structural Maintenance – Traffic Modelling Assessment Report* (Ref: GB01T18J54/6).

### 1.2 Network Scenarios

- 1.2.1 There are two options that were considered for programming the required bridge works as follows:

**Option A: Works undertaken before CTLR:**

- Old Perth Bridge main works – June 2022 for 6 months
- Queen's Bridge main works – April 2023 for 5 months

**OR**

**Option B: Works undertaken after CTLR is open**

- Old Perth Bridge main works – May 2024 for 6 months
- Queen's Bridge main works – May 2025 for 5 months

- 1.2.2 Each scenario was tested for each Option given in 1.2.1 above. A schematic of the four model test scenarios is provided as an appendix to this note.

### 1.3 Recommendations

- 1.3.1 The following recommendations are drawn from the model testing and analysis undertaken:

**Option A: Pre-CTLR opening (2022/2023):**

- If possible, hold off any works until after the CTLR is in place. The modelling suggests that the proposed works will result in severe congestion throughout the City Centre area if the works are undertaken before the CTLR is open
- Before the CTLR opens, the traffic delays due to the works could potentially be 'hours' long as opposed to 'minutes' long delays post-CTLR
- The modelling suggests that, before the CTLR opens, 15-25% of traffic crossing the Perth and Queens Bridges is required to 'evaporate' (i.e. not occur) to allow the network to operate without gridlocking. This equates to approximately 1500 to 3000 vehicles per day (depending upon which restriction is in place)
- If works are required pre-CTLR, it is recommended that full Traffic Management and communications plans are considered. Additional TM measures may be required to limit the impact of the works on the network. Further consideration & assessment of this is recommended
- Pre-CTLR, the traffic modelling outcomes suggest that a westbound closure would be slightly less detrimental to the network than an eastbound closure, for both the Perth and Queen's Bridges. This also keeps the major congestion out-with the City Centre core area, on the east side of the Tay

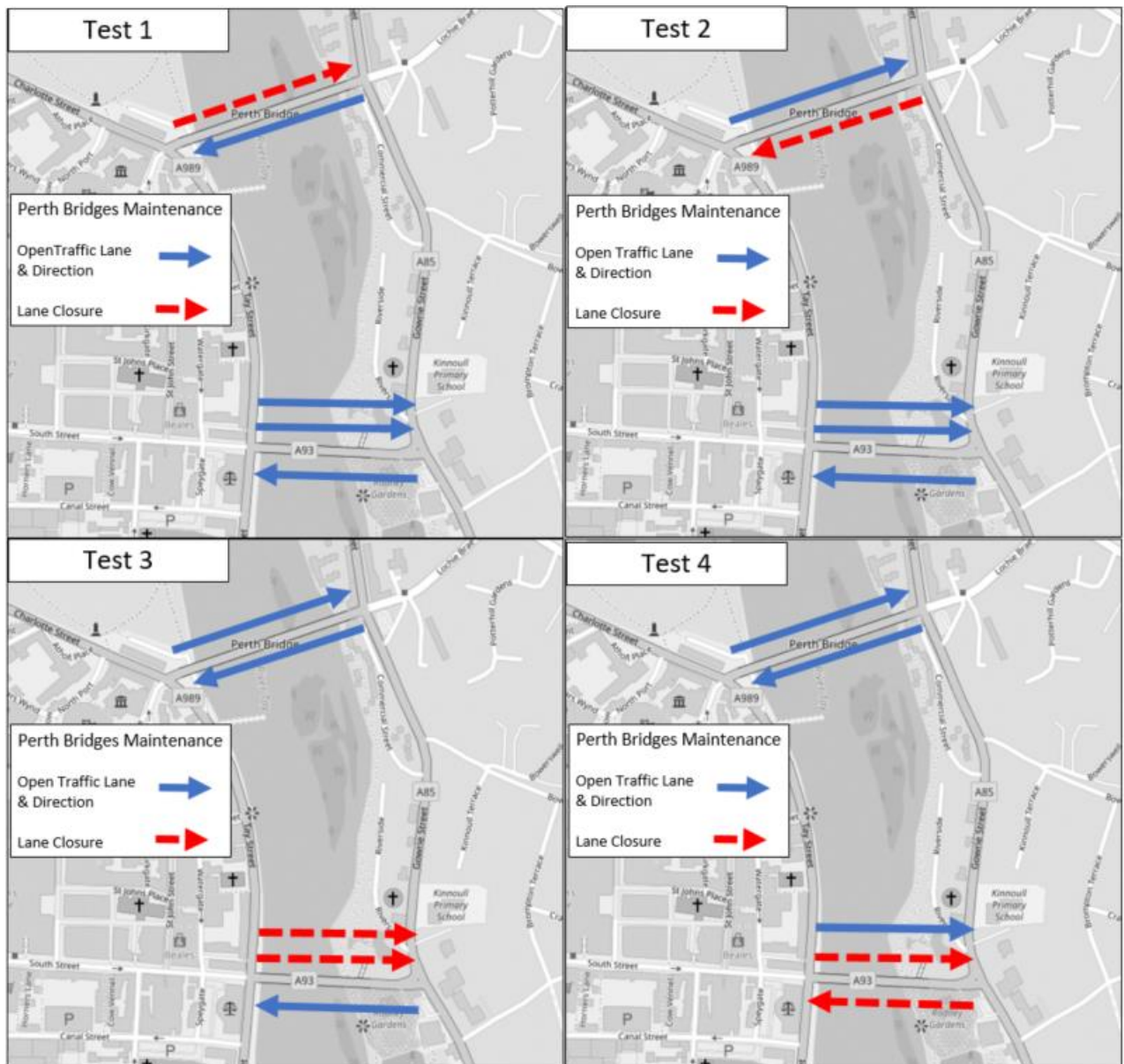
**Option B: Post-CTLR opening (2024/2025):**

- When the required bridge lane closures are in place, there is significantly less congestion through the network when the CTLR is operational.
- Post CTLR, the modelling suggests there may be a requirement to reduce the traffic demand by a small margin (5% of bridge trips – approximately 500 vehicles per day). This is far more achievable than the pre-CTLR requirements.. Therefore advanced warning, temporary signage, and a TM plan is recommended for post-CTLR also.
- In addition, a post-CTLR network is far more robust to incidents (i.e. Friarton Bridge closure due to wind or an accident). Traffic disruption would be significant if Friarton Bridge was restricted and lane closures were in place on either Perth Bridge or Queens Bridge without the alternative CTLR in operation.
- Post CTLR – the preferred closure direction, from a traffic congestion perspective, is not explicitly clear from the high level testing.

### 1.4 Additional Comments on the Model Assessment

- Community Link Plus (CLP) Works – Any traffic implications for the CLP proposals have not been taken into account as part of this modelling study as these proposals have yet to be fully developed at the time of writing.

## A. MODEL TEST DETAIL SCENARIOS



**APPROVAL**

Version	Name		Position	Date	Modifications
<b>1</b>	Author	Callum Guild	Principal Engineer	23/08/2019	
	Checked by	Iain Clement	Associate Director	23/08/2019	
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