

ABERDEEN CITY COUNCIL

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COMMITTEE	ENTERPRISE, PLANNING & INFRASTRUCTURE
DATE	6 November 2012
DIRECTOR	GORDON McINTOSH
TITLE OF REPORT	MARKET STREET/GUILD STREET JUNCTION – RATIONALISATION OF TURNING MOVEMENTS TO IMPROVE CAPACITY
REPORT NUMBER:	EPI /12/227

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1. PURPOSE OF REPORT

This report seeks to advise the Committee of a proposal to improve the capacity and operational efficiency of the traffic signal controlled junction of Market Street and Guild Street through the rationalisation of turning movements.

2. RECOMMENDATION(S)

That the committee ;

- a. Instruct the appropriate officers to introduce of a temporary ban on the movement of vehicles westbound from Virginia Street into Guild Street over the period from 19/11/12 until 28/1/13.
- b. Instruct the appropriate officers to commence the necessary legal procedures for the introduction of a permanent ban on the movement of vehicles westbound from Virginia Street into Guild Street.

3. FINANCIAL IMPLICATIONS

Funding will require to be identified to allow for the necessary Traffic Regulation Orders (TRO's) to be introduced. Physical alterations to the geometry of the Market Street/Guild Street junction will be required should the permanent ban be implemented and the cost of the necessary works is estimated at £15000. Should the temporary ban be approved temporary signing works will be necessary the cost of which is estimated at £2000. The temporary works cost can be accommodated within the existing Traffic Management and Road Safety budget and whilst the works for the proposed permanent TRO would be included in the Traffic Management and Road Safety budget allocation for 2013/14.

#### 4. OTHER IMPLICATIONS

It is anticipated that the introduction of a permanent ban on the movement of vehicles westbound from Virginia Street into Guild Street will reduce the potential for traffic conflicts at this busy junction and will improve junction efficiency thereby reducing congestion, delays and air pollution.

#### 5. BACKGROUND/MAIN ISSUES

Traffic volumes on the Market Street and Guild Street corridor are consistently high with the junctions operating at or beyond capacity. Since the opening of the Union Square development in October 2009 traffic volumes on Market Street have increased, particularly at weekends and in the early evening. As a result traffic congestion and delays have increased during the morning and evening peak periods and at peak shopping times. The existing traffic signal phasing and conflicting east / west traffic movements on Guild Street and Virginia Street restrict the capacity of the junction and regularly create long delays for eastbound traffic movements on Guild Street, impacting on the journey time for buses exiting the bus station.

At the weekends, during the run-up to Christmas, traffic levels increase, significant congestion occurs which further influences the operation of the surrounding road network leading to increased delays and driver frustration.

In addition complaints have been received from bus operators regarding difficulties experienced, on a day-to-day basis, by drivers wishing to turn right from Guild Street into Market Street. Following a period of monitoring by officers alterations were made to the traffic signal timings providing additional green time to turning traffic. Although the situation has been improved it has not been fully resolved, further improvements can only be realised through re-allocating green time from another traffic stage.

Banning the westbound straight through manoeuvre from Virginia Street onto Guild Street will allow the operational efficiency of the Market Street/Guild Street junction to be improved. This improvement will be achieved by the reduction in the number of traffic stages from 4 to 3 which will also lead to reduction in the amount of time lost during stage changes.

Traffic monitoring data indicates that approximately 240 vehicles per hour travel westbound from Virginia Street into Guild Street, this equates to around 11 vehicles per cycle being redistributed onto the surrounding network. It is considered that there is sufficient capacity to

accommodate this redistribution within the existing city centre road network.

From a traffic modelling perspective these changes will be most beneficial to traffic proceeding eastbound on Guild Street. Currently drivers wishing to travel from Guild Street onto Virginia Street only use the nearside lane as traffic in the offside lane is frequently delayed by right turning traffic unable to complete their manoeuvre by oncoming vehicles. They are only released when this opposing traffic is stopped. If there is no opposing traffic, vehicles turning right into Market Street from Guild Street will experience far fewer delays, which will encourage full utilisation of both traffic lanes.

It is also considered that further minor efficiencies will also be gained through the proportional redistribution of the green time.

### **Recent Experience**

Recently Scottish and Southern Energy carried out extensive works on electricity cables located under Guild Street, in front of St Magnus House.

Due to the scale of the works it was necessary to introduce significant traffic management measures to reduce Guild Street to one lane in both directions. In order to reduce the likelihood of congestion on Guild Street impacting on the operation of the Market Street/Guild Street junction a decision was taken to put in place a Temporary Traffic Regulation Order (TTRO) banning vehicles from proceeding westbound from Virginia Street into Guild Street for the duration of the works.

During monitoring of the works it was noted that during the initial period traffic congestion increased during the peak periods along Virginia Street and Union Street. However this was a short-term issue with drivers migrating onto alternative routes reducing congestion levels on Virginia Street to a more normal level.

During the period of the works no significant delays to traffic travelling eastbound on Guild Street were noted. It is considered that this is due to the reduction in traffic conflicts realised through the banning of the westbound straight through manoeuvre from Virginia Street.

### **Interim Short Term Proposal**

Given the traffic congestion experienced at the junction of Market Street and Guild Street during the festive period it is felt that introducing a ban on vehicles travelling westbound from Virginia Street onto Guild

Street would, as a short-term measure over the Christmas period and into mid January, prove beneficial.

The high cycle time, 160 seconds, that this junction has to run in order to manage the traffic flowing through it, limits the ability of officers to make changes to the operation of adjacent junctions without detrimentally affecting the linkages between them.

Reducing the number of traffic stages, as outlined above, will permit a reduction in the cycle time and allow officers greater scope for improving the efficiency of the network and aid the management of traffic during periods of peak traffic flow.

### **Long term Proposal**

It is anticipated that the longer term benefits gained from a permanent ban on vehicles travelling westbound from Virginia Street onto Guild Street will be enhanced by alterations to the management of vehicles entering and exiting the bus depot, further reducing congestion and delay for drivers using Guild Street and Market Street.

### **Conclusion**

In conclusion it is considered that banning vehicles travelling westbound from Virginia Street into Guild Street will reduce congestion and delay on the local road network through the rationalisation of turning movements. It is recommended that a TTRO is introduced as a short-term measure over the festive period, whilst officers progress the introduction of a permanent order as a long term improvement.

6. IMPACT

Corporate - This report links to the Service Plan for Enterprise, Planning & Infrastructure Strategic Priorities 4(4), 4(5) & 5(2)

Public - This report is likely to be of interest to the public as it involves a potentially significant alteration to a junction on one of the main arterial corridors in the city.

7. BACKGROUND PAPERS

None

8. REPORT AUTHOR DETAILS

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## **Consultees comments**

**Councillor Alan Donnelly** – *has been consulted 02/10/12*

**Councillor Graham Dickson** – *has been consulted 02/10/12*

**Councillor James Kiddie** – *has been consulted 02/10/12*

**Councillor Yvonne Allan** – *has been consulted 02/10/12*

## **Council Officers**

Barry Jenkins, Head of Finance, Corporate Governance – *has been consulted*

Jane MacEachran, Head of Legal and Democratic Service – *has been consulted*

Ciaran Monaghan, Head of Service, Office of Chief Executive – *has been consulted*

Gordon McIntosh, Director of Enterprise, Planning and Infrastructure – *has been consulted*

Hugh Murdoch, Head of Asset Management and Operations, E,P and I – *has been consulted*

Margaret Bochel, Head of Planning & Sustainable Development – *has been consulted and are comfortable with the outcomes of the modeling. Slight concern about the removal of the ability for traffic to route through to Willowbank Rd and the A93 but satisfied that traffic will find another route and for the surrounding roads to be monitored during the temporary order.*

Mike Cheyne, General Manager, Operations – *has been consulted*

Neal Carnegie, Community Safety Manager – *has been consulted*

Dave Young, Account Manager, Corporate Governance – *has been consulted*

Laura Watson, Service Co-ordinator E P & I

Mark Masson, Committee Services Officer