

Decision Maker: Environment Portfolio Holder

For Pre-Decision Scrutiny by the Environment PDS Committee on:

Date: 19 November 2013

Decision Type: Non-Urgent Executive Non-Key

Title: SEVENOAKS WAY (A224) PROPOSED, UTC SCOOT SYSTEM

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Chief Officer: Nigel Davies, Executive Director of Environment & Community Services

Ward: Cray Valley West & Cray Valley East

1. Reason for report

- 1.1 The section of A224 along Cray Avenue and Sevenoaks Way is one of the most congested road networks within the Borough of Bromley. Over the years various proposals have been put forward to aid traffic movements and reduce congestion along this stretch of road. Some of these schemes are currently in the process of installation; however, in order to maximise the benefit of these improvements it is proposed to install a system that will link the traffic lights along the route and improve traffic flow.

2. **RECOMMENDATIONS**

That the Environment Portfolio Holder:

- 2.1 Approves the proposal to introduce a UTC Scoot system to this section of the A224, Cray Avenue / Sevenoaks Way, from Poverest Road to Main Road; and
- 2.2 Delegates authority to the Executive Director of Environment and Community Services, in consultation with the Portfolio Holder and Ward Members, to approve the scheme's detailed design.

Corporate Policy

1. Policy Status: Existing Policy:
 2. BBB Priority: Quality Environment:
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Financial

1. Cost of proposal: Estimated cost £180k
 2. Ongoing costs: Maintenance costs are covered for 15 years within the upfront fee
 3. Budget head/performance centre: TfL Funding for Congestion Relief,
 4. Total current budget for this head: £655k of which £50k is allocated to this scheme in 2013/14 – this amount remains uncommitted. The remaining £130k is to be found from the 2014/15 TfL funding for Congestion Relief which has a budget of £573k.
 5. Source of funding: TfL LIP Funding 2013/14 and 2014/15
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Staff

1. Number of staff (current and additional): 4
 2. If from existing staff resources, number of staff hours: 75
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Legal

1. Legal Requirement: Non-Statutory - Government Guidance:
 2. Call-in: Applicable:
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Customer Impact

1. Estimated number of users/beneficiaries (current and projected): All motorists using this section of our road network.
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Ward Councillor Views

1. Have Ward Councillors been asked for comments? Yes
2. Summary of Ward Councillors comments: Any comments received will be reported to Committee.

3. COMMENTARY

- 3.1 In 2008 the Committee's Congestion Working Group report cited the A224 as a congestion reduction priority for the Borough. The Council has subsequently commissioned several studies into the A224, concentrating on Cray Avenue and Sevenoaks Way.
- 3.2 In a February 2011 study various observations were made and suggestions put forward. The aim of the study was to investigate possible methods to reduce congestion; the findings highlighted various options some of which are listed below:
- Option 1 - install traffic signals at the Nugent Retail Park and Main Road junction with Sevenoaks Road.
 - Option 2 - ban right turn movements at the Leasons Hill junction and remove bus lanes from Cray Avenue Northbound approach.
 - Option 3 - the removal of the staggered pelican crossing outside the Nugent Retail Park and to add an additional entry or exit road into or out of the Centre.
 - Option 4 - Install Urban Traffic Control (UTC) Scoot (Split Cycle Offset Operation Technique) to this section of the A224.
- 3.3 Improvements in respect to each of Options 1, 2 and 3 have been approved for installation over coming months and this report seeks approval for Option 4.
- 3.4 **Scoot Urban Traffic Control (UTC) System**
- Scoot is a traffic regulating system developed by the Transport Research Laboratory (TRL) in collaboration with the UK traffic system industry. Scoot is an adaptive system which responds automatically to traffic fluctuations. Scoot has proved to be an effective and efficient tool for managing traffic on signalised road networks and is now used in over 130 towns and cities in the UK and overseas.
- 3.5 In 2008 TfL carried out a study to assess the benefit of implementing UTC Scoot control on the A224, between Leasons Hill / Sevenoaks Way and Poverest Road / Cray Avenue junctions. The study found that having this section of the A224 on UTC Scoot would greatly benefit the corridor by allowing for its strategic control. This control will allow timings at signals to be varied to suit the demands of the current traffic conditions. Sensors detect tailbacks and automatically change timings, plus alerts to a control room can allow remote changes to be applied once the traffic has been inspected using CCTV.
- 3.6 Recently the Environment Portfolio Holder has approved plans to install new traffic signals at the Nugent Centre exit/entrance and Main Road junction with Sevenoaks Way. In addition it was also agreed to upgrade the Leasons Hill traffic signal junction for the purpose of enhancing traffic flow. This current proposal is to introduce UTC Scoot at each set of traffic signals from Poverest Road to Main Road, linking them all together to improve traffic flows.
- 3.7 In urban areas where traffic signals are close together, the co-operation of adjacent signals is important and gives great benefit to road users. Linking traffic signals along a single route, so that vehicles get a green signal at each junction in turn, is relatively simple and has been shown to be successful in increasing traffic throughput.

3.8 Benefits of Scoot.

The benefits of Scoot compared to alternative methods of control have been well documented. A journey time survey in Worcester and Southampton found that Scoot control reduced delays substantially compared with vehicle activated signal operation. Typical delay reductions were 8% in London, 23% in Worcester and 30% in Southampton. It is expected that journey time delays on the A224 would be reduced by anything from 8% to about 20% through the use of UTC Scoot. See enclosure 1 for a graphical illustration.

3.9 The purpose of UTC is to reduce the waiting time for vehicles at a road intersection by operating traffic signal equipment in accordance with timing plans stored in a central computer. Any adoptive traffic control system relies upon good vehicle detection of the current conditions in real time to allow a quick and effective response to any changes in the traffic situation. Scoot detects vehicles at the start of each approach to every controlled intersection. It models the progression of the traffic from the detectors through to the stop-line, taking due account of the state of the signals and any consequent queues. The information from the module is used to optimise flow and minimise network delay.

3.10 In addition to selecting plans automatically an operator may, if required, select a plan more suitable to the prevailing conditions. In the event of a fault in the system, which prevents remote control, the traffic equipment reverts to the local mode of operation until the fault clears. Provision is also made for local mode (Local mode is a preset timing plan that is selected automatically if scoot drop off line) for the complete system to be selected manually, if required.

3.11 An enhancement to the UTC system is Scoot control (Scoot requires UTC) which is selected in place of any fixed available timing plans. With Scoot operation the system makes continuous incremental changes to the signal timings which are most appropriate to the traffic density. Constant monitoring of traffic density is performed using vehicle detection equipment, such as scoot loops or magnetometers. With Scoot operations CCTV cameras are used to assist the TfL monitoring team who are also able to make changes remotely.

3.12 The estimated cost of this proposed scheme includes an up-front fee to TfL for the maintenance of the system and the cameras for a 15 year period.

4. POLICY IMPLICATIONS

4.1 A key aim set out in the Environment Portfolio Plan 2013-16 is to “Improve the road network and journey times for all users”.

4.2 UTC Scoot has been shown to be an effective tool for optimising traffic flow

5. FINANCIAL IMPLICATIONS

5.1 The estimated cost of £180k includes the installation of sensors plus two CCTV cameras; one near the Nugent Retail Park; and another by the Main Road junction of Sevenoaks Way. It also includes the cost of maintenance for 15 years.

5.2 The cost will be funded from the 2013/14 and 2014/15 TfL LIP budgets for congestion relief. The 2013/14 TfL budget currently has an amount of £50k available and the 2014/15 TfL budget as an amount of £573k.

Non-Applicable Sections:	Legal and Personnel Implications
Background Documents: (Access via Contact Officer)	<i>The Scoot Urban Traffic Control System</i> , by Peek Traffic Ltd. <i>A224 Cray Avenue Business Case</i> , by N. Rose, DTO UTC, TfL (6 October 2008). <i>TRL Scoot Presentation</i> , by Transport Research Laboratory.