Siemens' Urban Traffic Control (UTC) systems are recognised as the market leaders for the efficient control of large and complex intersection networks. For smaller networks, Dial-Up Strategic Control offers an economical introduction to UTC with the benefit of low communication costs.

DUSC is based around Siemens' successful Remote Monitoring System and consists of a PC-based instation controlling one or more Gemini outstations. In keeping with the RMS concept, communications with the Gemini outstations are based on infrequent PSTN or GSM connections, avoiding high communications costs incurred with permanent instation to outstation links.

Effective strategic control

Strategic control is implemented using a cableless linking (CLF) principle, but with plans being prepared and downloaded from the instation and implemented in each Gemini. Because there is no need to hold the plans in the traffic controller configuration, plan modification is simple and quick. Up to 16 plans, each with as many as 32 groups, complete with complex demand dependent conditioning, may be configured. Unlike some CLF implementations, DUSC allows complex conditions, such as demand dependency, to influence plan operation, enabling traffic flows to be maximized without disrupting intended green progressions. An advanced master time clock facility allows plans to be introduced by time and day of the week, or for public holidays and special occasions. Importantly, time synchronisation of the whole system is maintained from the instation by regular automatic status calls to each Gemini outstation. The frequency of these may be programmed by the operator but is typically set at once a day.

Automatic traffic reaction

As well as providing advanced CLF control, the DUSC system is able to react to unusual conditions such as excessive or reduced traffic flows, or traffic queues. Trigger conditions may be configured and downloaded to the Gemini which, when detected, will be automatically reported. The instation regularly assesses these reported conditions and if they match pre-programmed combinations can automatically implement a strategic response.

- Ideal for controlling smaller networks of intersections
- Economical installation and communication costs
- Full map-based operator interface
- Easy-to-use system configuration and validation tools
- Reliable reporting of equipment status and fault information
- Based on Siemens' highly successful Remote Monitoring System

DUSC

Dial-Up Strategic Control

Traffic Solutions

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Typically this would be to instruct one or more Gemini outstations to run different plans designed to cope with the new conditions. Alternatively it could be to trigger signs to warn motorists of possible delays.

Easy to configure and validate

To ensure correct plan design, DUSC provides several modes of operation, as well as advanced visualisation tools allowing plans for many sites to be seen and modified together. Using time-distance diagrams, the DUSC instation is able to simulate plans running on selected routes. In 'off-line' mode, a simulation is available showing the current plans, as they should be performing, on the street at that time. This allows the operator to alter the date and time of the simulation to validate plan timings. In this mode, changes to any of the plans can be made by simply dragging elements of the time-distance diagram. The 'on-line' mode shows actual plan activity running at the OMCU as well as reporting real green confirm information. This mode requires simultaneous communication with several Gemini's, and the DUSC instation allows up to eight modems to be connected to support this activity.

Comprehensive range of RMS features

A key feature of DUSC is the retention of all RMS functionality. In addition to providing strategic control, the Gemini offers extensive features such as signal lamp monitoring, detector monitoring, controller monitoring, bus priority, access control and simple variable message sign control. Significantly, the latest MOVA functionality can be included for sites where isolated MOVA operation is required off-peak and strategic plan control is required on-peak. As a final aid to plan generation and maintenance, detector counting features allow continuous traffic flow assessments to be made automatically at the Gemini, without expensive surveys. Data collected in this way may be used when new plans are required to address changing traffic patterns.

For further information, please contact:
Siemens Mobility, Traffic Solutions, Sopers Lane, Poole, Dorset BH17 7ER UK

Telephone: +44 (0) 1202 782000
E-mail: sales.stc@siemens.com

www.siemens.co.uk/traffic