

Info Polis

----- MEMBER IN THE SPOTLIGHT – CITY OF EDINBURGH -----

ITS in Edinburgh

The City of Edinburgh Council has had an Intelligent Transport Strategy (ITS) since 2004. Its primary purpose is to provide a more strategic framework for utilising existing ITS and ensuring new technology solutions are developed in a similar manner. A further objective is to assist Edinburgh in achieving its mission of becoming a centre of excellence on integrated transport management and integrated decision support.

Edinburgh's first ITS strategy was prepared in 2004 following a study on the ITS capabilities within Edinburgh, as part of preparatory work for congestion charging. The study identified the need to develop an ITS strategy for the city which would outline the future technology requirements to effectively operate Edinburgh's transport systems. Following the cancellation of the congestion charging project, (which would have funded many of the new systems identified in the strategy), a decision was made to implement three of the ITS solutions recommended in the strategy, with funding successfully secured from the regional transport authority SEStran.

Achievements arising from the 2004 ITS strategy

The three projects recommended are as follows:

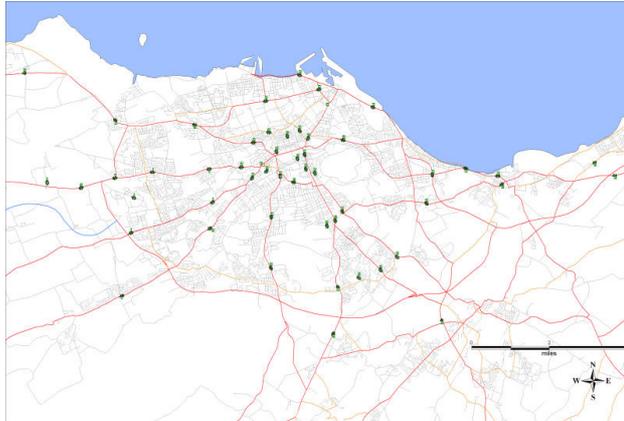
- Car Parking Guidance, Strategic Variable Message Signs (VMS) and Common Database**
 A UTM (Urban Traffic Management & Control – the UK standard) common database was implemented. This controls the car parking guidance system, displaying on 20 signs around the city centre the current off-street parking availability. The common database also controls 33 free text strategic VMS on main routes in and around the city which are used to inform drivers of incidents, special events and roadworks. This is one of the largest urban VMS systems in the UK and includes signs located in neighbouring authorities. The common database also provides an integrated front interface for the staff controlling the Council's traffic systems in the city, allowing them to identify then react to situations more effectively.



- Upgrade of UTC system**
 This project involves the upgrading of the Council's Urban Traffic Control System, called SCOOT, which controls most of the city centre traffic signals. Much of the current system hardware is life expired and uses obsolete communication technology. The new equipment utilises more flexible digital communications options which offer the potential for long term cost savings.

- **Journey Time Monitoring System**

This system uses ANPR (Automatic Number Plate Recognition) cameras mounted on traffic signal poles to monitor journey times along strategic routes into and around the city. The journey time information is linked through the common database and can be utilised together with the congestion detection features of the traffic signal control system. Together this information is used to monitor network performance. There is now the capability to provide this data to drivers via the strategic VMS.



The development of Edinburgh's ITS systems is ongoing with close to £4.5 million spent in capital investment to date. Some enhancements due to be completed shortly include an improved website providing real-time parking availability, current road works and other useful travel information.

The revised ITS strategy

The ITS strategy was revisited in 2009 to reflect the work carried out to date, the needs of the tram project and the views of the new Head of Transport. The new strategy was compiled following consultation of the main transport stakeholders including the bus operators, freight operators, road hauliers, Police and other transport agencies. This exercise revealed the need and desire for greater cooperation among the different organisations to improve traffic management and the delivery of information to road users. There was also general agreement on the need to enhance public transport, through the tram project and real-time information for the public.

Together with Edinburgh's Transport 2030 Vision document (www.edinburgh.gov.uk/transport), the strategy has identified key areas where ITS technologies would be able to significantly improve the traffic management of the city, improving life for both residents and visitors to Edinburgh. The areas are outlined below and are categorised as short, medium and long-term goals.

Short term initiatives

These developments are generally those where current technology and a degree of funding exists so that they are able to be delivered within 12 to 24 months.

- *On-street Car Parking Guidance:* This initiative aims to provide information to drivers by VMS and web/wap on parking availability within the city centre. This will increase utilisation of Council parking assets and assist in the economic prosperity of retailers.
- *Information exchange with Transport Scotland:* Work is underway to exchange traffic data with the national traffic control system charged with looking after the trunk road network. Initially this will be journey time information but VMS control will follow.
- *Freight management:* Initial proposals detail a dedicated freight information service providing static and real-time information such as location of lorry parks, preferred HGV routes, location of roadworks/events and current network conditions. At the same time consideration will be given to the feasibility of a Freight Consolidation Centre where large vehicles are offloaded and consolidated onto clean vehicles more suitable for urban deliveries.
- *Mobile air quality monitoring:* Following on from work carried out by the European Message Project on real-time mobile air quality monitoring systems, Edinburgh intends to carry out a small scale trial of this technology. This involves locating a number of "motes" on a transport corridor alongside a conventional static air quality monitoring site to evaluate their potential effectiveness as part of a dynamic traffic management system.
- *Intelligent speed adaptation trial (ISA):* The Scottish Government is seeking to trial ISA on a limited basis and Edinburgh has expressed interest in becoming involved in a small scale trial. This would involve equipping a suitable vehicle either from the council's fleet or from the local bus company.
- *Network performance dashboard:* This involves the development of a facility which combines all the network monitoring carried out by Edinburgh's ITS systems into a single dashboard which will provide an "at a glance" overview of traffic network conditions. This will be made available to senior council officials and the general public online.

Medium term initiatives

These developments are more complex or expensive in nature and will require collaboration with either other public bodies or industry. They may also require external funding to realise. The timescales for these initiatives is likely to be from two to five years.

- *Co-located traffic control centre:* Through discussions with key stakeholders a desire has been identified to create a co-located traffic control centre, bringing together strategic traffic control, tram control and bus operations in the one location. It has been identified that this would foster closer working arrangements, particularly during incidents/events and provides opportunities for efficiency savings. While there are no technology barriers to this proposal it will require significant funding to construct and equip such a facility.
- *Dynamic traffic management:* Following a successful trial of initiative 4 (above) it is intended to deploy mobile air quality sensors along major traffic routes in the city. These would be used together with the congestion monitoring tools within the journey time and SCOOT systems to actively manage traffic, minimising both emissions and congestion while also providing priority for public transport vehicles. This initiative will require significant funding to deploy the on-street equipment and develop the control system. There may be opportunities to learn from partners in other European cities who have deployed similar systems.
- *Decision support system:* During development of the tram project a city-wide traffic model was created for Edinburgh. It is intended to utilise this model as a base for a decision support model for the city. This facility would assist strategic traffic control by enabling control room staff to model the effects of incidents, road works and events prior to their commencement and make informed decisions. This will become increasingly important following the introduction of the tram. From work done to date there is a major cost attached to the development of these systems.

Long Term Initiatives

These developments are possibly not more complex or expensive in nature than medium term initiatives but may require change, perhaps to law or the vehicle fleet, which takes a longer period to implement. The timescales for these initiatives is likely to be over five years.

- *Cooperative vehicle information systems/e-safety systems:* Edinburgh would seek to be at the forefront of the introduction of vehicle-to-vehicle and vehicle-to-infrastructure systems. The known benefits in terms of road safety would be complimented by the reduction in road side infrastructure, made possible by providing more information within the vehicle. These technologies have been trialled by several European projects such as SAFESPOT and CVIS. While substantial, the costs associated with the introduction of intelligent infrastructure would be offset by the reduced need to provide conventional equipment such as VMS. However Pan European Legislation may be required to force the necessary changes to vehicles to enable them to interact with such systems.
- *Integrated ticketing:* Edinburgh is actively investigating the potential for integrated ticketing, both locally and in the wider Scottish context, and has recently commissioned consultants to provide a position statement on the issue. An integrated ticket product, 'One-ticket', is already in use in the SEStran area and the City of Edinburgh Council participates in the scheme. *One-ticket* allows passengers to use the services of all participating transport operators covering bus and rail services in the SEStran area. There is potentially a requirement for legislation, either nationally or across Europe, to encourage commercial public transport providers to engage in similar schemes.

For more information, contact: Alistair Malcolm, Senior Professional Officer, New Works (Traffic Systems), the City of Edinburgh Council
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POLIS MEMBERS' CALENDAR OF EVENTS

NOTE: Events marked in colour are restricted to Polis Members

| | | | |
|-----------|----------|----------------------------------|--|
| May | 5 | Graz (AT) | Design of an integrated European Road safety Curriculum for secondary schools Contact: joke.hofmans@vleva.eu |
| | 5-7 | Graz (AT) | ECOMM 2010 Info: http://www.ecomm2010.eu |
| | 6-7 | Rome (I) | CONDUITS city pool workshop |
| | 11 | Barcelona | eSUM Project Seminar |
| | 19-21 | Dunkerque | European conference on sustainable cities and towns Contact: aclark@polis-online.org |
| | 26-28 | Leipzig | International Transport Forum Info: http://internationaltransportforum.org/2010/index.html |
| | 1-2 | Ljubljana (SI) | CITEAIR II Workshop Contact: mkloth@polis-online.org and ojung@polis-online.org |
| June | 7 | | Final iCars workshop Contact: shaon@polis-online.org |
| | 9 | Brussels | Political group meeting Contact: shaon@polis-online.org |
| | 7-10 | Brussels (BE) | Transport Research Arena Info: http://www.traconference.eu/Default.aspx Contact: shaon@polis-online.org |
| | 9-10 | Grenoble (F) | PRESTO training 'Give cycling a push' Contact: aclark@polis-online.org or mkloth@polis-online.org |
| | 15-16 | Dresden | Third Parking Workshop and Management Committee meeting Contact: icre@polis-online.org |
| | 16 | Brussels (B) | CityMove – citylog User Forum Contact: mkloth@polis-online.org |
| | 22 | Brussels (B) | DG MOVE ITS Conference |
| | 22-25 | Copenhagen (DK) | Velo-City Global 2010 Info: www.velo-city2010.com Contact: mkloth@polis-online.org |
| | 29 | Brussels (B) | NICHES + extended advisory committee |
| July | 1-2 | Pisa (IT) | Polis Environment & Health WG meeting Contact: shaon@polis-online.org or mkloth@polis-online.org |
| | 1-3 | Pisa (IT) | Green Energy City conference |
| | 11-15 | Lisbon | 12th World Conference on Transport Research Info: http://www.wctr2010.info/ |
| September | 8-15 | Clermont-Ferrand (FR) | Summer University – 9-10 September: Polis days Contact: icre@polis-online.org |
| | tbc | Worcestershire (UK) | NICHES+ national event in Worcestershire (to be confirmed) Contact: icre@polis-online.org |
| | 16-22 | | Mobility week |
| | 21 | Brussels (B) | Polis Safety & Security Working Group meeting Contact: shaon@polis-online.org and ojung@polis-online.org |
| | 23 | Cork (IE) Worcestershire (UK) | NICHES+ national event in Cork Contact: icre@polis-online.org |
| | 27-29 | Malmö (SV) | CIVITAS Forum Contact: kvancluysen@polis-online.org |
| | 27-29 | Brussels (B) | ICT 2010 Info: www.ict2010.org |
| October | 11-13 | Glasgow | European Transport Conference Info: http://www.aetransport.org/lc_cms/page_view.asp?id=22 |
| | 13-14 | Trondheim (NOR) | Smartfreight Final Conference Contact: gbarrera@polis-online.org |
| | 14-15 | Trondheim (NOR) | NICHES+ national event in Trondheim Contact: icre@polis-online.org |
| | 21 | Skopje (FYROM) | NICHES+ national event in Skopje Contact: icre@polis-online.org |
| | 26-27 | Busan (KO) | ITS World Congress Info: www.itsworldcongress.com/ |
| | 15-17 | Madrid (ES) | CIMO |
| | 18-19 | London (UK) | Mediate - Access2all Final Conference Contact: shoadley@polis-online.org and ojung@polis-online.org |
| November | 17-18-19 | Szentendre | VANGUARD Technical Training on Mobility Management Contact: icre@polis-online.org |

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| | 24 | Dresden (DE) | Polis AGA Contact: shaon@polis-online.org |
| | 25-26 | Dresden (DE) | Polis Conference Contact: shaon@polis-online.org |
| December | 3 | Artois-Gohelle (FR) | NICHES+ national event in Artois-Gohelle Contact: icre@polis-online.org |