Intelligent Transport Systems (ITS) Strategy for Birmingham

December 2010

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Foreword

I am delighted to introduce this Strategy which sets a framework for the future development of Intelligent Transport Systems (ITS) in Birmingham. It has been prepared by the City Council's Transportation Strategy team and was informed by input from colleagues in other areas of the City Council and key partners.

ITS is generally described as the integration of information and communications technology with transport infrastructure, vehicles and users. It is a tool for use as part of transport management strategies to provide an integrated, safer, more efficient and more sustainable transport system. Simply, the co-ordinated, well designed use of ITS can help save lives, time and money.

ITS supports the City Council's Vision for Birmingham as set out in the Council Plan. ITS will have an increasingly important role in enabling the City Council to continue improving road safety together with the more economic, efficient ,effective and sustainable management of roads, freight and public transport services.

ITS technology, together with appropriate investment in infrastructure will provide benefits in terms of reduced accidents and congestion and help to make our transport networks more secure. ITS will also provide tools to assist the City Council in meeting its wider environmental objectives.

Public Transport users will be able to access live information and be able to use integrated smartcard ticketing systems. Motorists will be able to use in-vehicle devices which will inform them about the most efficient and safest route to take to their destination, and the most fuel-efficient driving strategy. iTng systems.

1 Birmingham's Intelligent Transport Systems (ITS) Strategy

1.1 Why does Birmingham need an ITS strategy?

ITS – Intelligent Transport Systems – is the integration of information and communications technology with transport infrastructure, vehicles and users. By sharing vital information, ITS allow people to get more from transport networks, in greater safety and with less impact on the environment.

Birmingham requires an ITS strategy to ensure that the maximum benefits can be gained from implementation of various types of applications thus helping to deliver safer, more secure, more efficient and more sustainable transport.

This Strategy identifies where ITS can play a key role in supporting transport in Birmingham. The Strategy should enable linkages between distinct areas to be made and help identify opportunities for improved joint working within the City Council and with external partners.

ITS uses computer and communication technologies together with real time data from various sources to:

- Collect information about the current state of the transport network;

- Process that information; and either

- Directly manage the network or

- Provide information to allow people to decide how best to make a journey.

1.2 How will this Strategy be delivered?

The actions identified within this strategy will be taken forward through the work programme of Birmingham City Council's Transportation and Regeneration portfolio; and through joint initiatives with sister authorities within the West Midlands Metropolitan Area. Individual projects will be progressed in accordance with City Council governance procedures and the requirements of the relevant funding body. It will be coordinated with initiatives such as 'Digital Birmingham' and 'Intelligent City'.

2 Policy Context

2.1 European policy

The European Union (EU) White Paper *Transport Policy for 2010*, updated in 2006, stressed the role of intelligent transport systems in meeting the challenge of delivering fast, reliable and safe transport networks across the EU. In December 2008, the European Commission adopted an ITS Action Plan to support faster, better co-ordinated and more harmonised use of intelligent transport systems and services. The Action Plan covered six areas:

- Optimal use of road and traffic data
- Traffic and freight movement
- Road safety and security
- Integrated ITS application in the vehicle
- Data protection and liability
- European ITS co-ordination

2.2 UK policy

The Government has five over-arching objectives for transport:

- to protect and enhance the built and natural environment;

- to improve safety for all travellers;

- to contribute to an efficient economy and support sustainable economic growth in appropriate locations;

- to promote accessibility to everyday facilities for all, especially those without a car; and

- to promote the integration of all forms of transport and land use planning, leading to a better, more efficient transport system.

The policy context for ITS in the UK is set out in a range of key Government documents produced by both the Department for Transport (DfT) and the Department for Business, Innovation and Skills (BIS).

The 2004 **Future of Transport White Paper** sets out the Government's strategy for land transport. It highlights the need for road networks that are enhanced by better management, supported by technology to manage the network and inform travellers.

New technologies offer opportunities to:

- Reduce the risk of accidents
- Enhance road capacity
- Support environmental protection objectives
- Improve sustainable freight transport

Elsewhere the importance of developing ITS for the delivery of transport and wider policy objectives is reflected in the DfT's **Road Pricing Feasibility Study**, **Managing Our Roads** and **Tomorrow's Roads – Safer for Everyone: The First Three Year Review.**

The Department of Trade and Industry (DTI) Innovation Report – **Competing in the Global Economy – The Innovation Challenge** – looks at the contribution that ITS can make in supporting UK productivity.

The DfT published a **Policy Framework for the Roads Sector** in November 2005. It sets out the role of ITS in supporting government road transport objectives and that there is a need for collaboration between the public and private sector to realise the potential benefits.

The HM Treasury/DfT commissioned **Eddington Study** published at the end of 2006 exploring the impact, beyond 2015, of transport decisions on the UK's productivity, stability and growth. The report highlights the role of technology in improving traffic management and meeting environmental objectives.

Developing a Sustainable Transport System

In October 2007 the Department for Transport published 'Towards a Sustainable Transport System' (TASTS) which sets out how transport can support economic growth in a low carbon economy. It proposes a new approach to transport planning based on the recommendations in the Eddington Study. ITS systems and other technology are vital in supporting this.

In November 2008 the DfT followed TASTS up with 'Developing a Sustainable Transport System' (DASTS) which outlined how the Government proposes to put the approaches in TASTS into action. ITS will play a key role through encouraging behavioural change by enabling access to information that will enable people to make better informed choices about when and how to travel and by helping to better manage transport networks to enhance capacity.

2.3   The Traffic Management Act 2004

The Traffic Management Act, 2004 (TMA) places a network management duty on local highway authorities. This duty is to secure the expeditious movement of traffic, inclusive of cyclists and pedestrians, on the authority's road network and on adjacent road networks for which another authority is the traffic authority. Intelligent Transport Systems will play a key role in helping the City Council ensure it meets its responsibilities.

2.4   New Roads and Street Works Act 1991

This Act requires statutory undertakers to work with local highway authorities to minimise disruption arising from road works. Intelligent transport systems can help facilitate this obligation.

2.5 Regional Policy

The former **Regional Spatial Strategy (RSS)**, planned for revocation by the Government, provided the framework for development in the West Midlands, including the **Regional Transport Strategy.** The delivery of Intelligent Transport Systems will provide further justifications in terms of a sound evidence base approach, with particular reference to:

- Policy T1 – Developing accessibility and mobility in the region to support the Spatial Strategy

- Policy T2 – Reducing the need to travel

- Policy T4 – Promoting Travel Awareness

- Policy T5 – Public Transport

- Policy T7 – Car Parking Standards and Management

- Policy T8 – Demand Management

- Policy T9 – The Management and Development of National and Regional Transport Networks

- Policy T10 – Freight

2.6 West Midlands Local Transport Plan

The existing West Midlands Local Transport Plan (LTP2) and the current Draft West Midlands Local Transport Plan 2011-2026 (LTP3) acknowledge that Intelligent Transport Systems (ITS) will play a major role in meeting the network management duty. The Metropolitan Authorities have a history of involvement with ITS. The Authorities have continued to implement ITS solutions to manage traffic growth. More recently, they have played an important part in the European Research & Technological Development framework programmes and the Urban Traffic Management and Control (UTMC) research programme.

The use of ITS such as UTMC and the development of the Midlands Advanced Transport and Telematics Information System for Strategies in Europe (MATTISSE) system to monitor progress in improving network management and operation will be essential in delivering on many of LTP2&3's objectives and targets. A major scheme bid was approved in September 2008 for the West Midlands Urban Traffic Control systems. It is anticipated that this scheme will improve communication and coordination between the seven Metropolitan Urban Traffic Control centres together with the Police, Highways Agency and public transport operators.

2.7   City Council Policy

At a City Council level the potential use of technology (transport telematics) to achieve better management of the highway network is highlighted in **Visions – Transportation Strategy for Birmingham** – para 4.9: '*The City Council will actively support the development of new technologies which will help deliver our policies in an efficient, effective manner. It is important that in pursuing this we seek to create linkages with local business to help stimulate the development of an advanced telematics industry in Birmingham*'.

ITS will contribute to delivering the Strategic Outcomes for the Transportation and Regeneration portfolio of the **Council Plan 2010+**;
  - Succeed Economically
  - Stay Safe in a Clean Green City
  - Be Healthy
  - Enjoy a high quality of life
  - Make a contribution

2.8   Birmingham Core Strategy

The emerging **Core Strategy 2026 for Birmingham** provides the framework for the City's growth, economic development and approach to tackling the key issues for the next 20 years. The Core Strategy also outlines and seeks to assist the City Council to meet its vision and key themes and objectives, as set out in the City Council's **Sustainable Community Strategy.**

The development of ITS will help the City Council improve on the efficient use of its existing road space and tackle road congestion, particularly along major road corridors in Birmingham during peak hours (Core Strategy - SP 39: Traffic and Congestion Management).

2.9   Scrutiny Review

A report by the Transportation & Street Services Overview and Scrutiny Committee in April 2006 examined Traffic Management and Control, as congestion was a key concern amongst residents and is a priority within the Council Plan.

The Review highlighted the value of ITS in making travel more efficient, in terms of its safety, pollution effects, cost and information provision.

The Scrutiny Review recommended that the City Council develop an overall policy for Intelligent Transport Systems given the fluid nature of the issue and the ongoing changes happening at all levels.

3   Birmingham's ITS Strategy

The Department for Transport (DfT) published their Policy framework for the roads sector in November 2005 from which the various policy themes are taken. This document sets out a strategic and local policy framework, based on the seven themes listed in DfT's policy framework for the road sector. It highlights associated actions where ITS applications can play an important role for transport and travellers.

STRATEGIC POLICY

3.1 Improving Traffic Flow

Congestion is an increasing transport issue of concern in Birmingham and elsewhere in the UK. Generally Birmingham's roads function well for much of the time. However, delays do occur either as a result of traffic volume compared with capacity, road works or incidents such as accidents.

A variety of ITS systems are already being used to assist road network management in Birmingham in terms of both monitoring and control traffic flow.

3.1.1 Signalised junction control

Around 450 of the City's 1,150 signal junctions and pedestrianised crossings are controlled by the Urban Traffic Control (UTC) system, including Junction 6 of the M42. Others are linked via MOVA – an adaptive traffic signal control system or cableless linking. The number of sites is continuing to increase.

Linking signals through the UTC system is important because it allows for monitoring and control at a central point, providing quicker warnings that a problem has developed. Traffic signal improvements are important in order to increase efficiency in traffic detection and control across the City. The UTC Major Scheme (see paragraph 2.6) will enhance the signals' functionality and effectiveness.

High masts traffic signals will only be used in locations where other options are not available. Traffic control filter systems will continue to be pursued by the City Council. Where traffic signals are installed at roundabouts in order to maximise highway capacity and regulate peak hour flow, the City Council will consider switching off the traffic signal operations at off-peak periods where appropriate.

3.1.2 Monitoring Flows

This is through outstations such as loop detection or in-vehicle links such as ITIS or TrafficMaster Networks. It can provide real time information (e.g. ASTRID through SCOOT network) or historic information.

3.1.3 CCTV cameras

CCTV cameras are the eyes of the UTC system and allow staff to monitor the network and see where and why a problem is occurring. The UTC system currently has 21 wired traffic CCTV and 7 wireless CCTV cameras at key junctions across the City.

In total, there are about 665 public space CCTV cameras in Birmingham. Most are used for community safety purposes. About 40 of these cameras are useful to the UTC centre. The 2008 Birmingham Public Space CCTV Strategy contains plans to amalgamate the active monitoring of traffic management, ANPR and community safety cameras within a single operational unit. It also contains wider plans to improve the effectiveness of CCTV coverage. This is consistent with the recommendation of the Scrutiny Review of Traffic Management and Control, and of 'Project Champion'.

In order to improve co-ordination, the Police and information networks can be given direct access to the UTC system and Control Room cameras.

- Build on and integrate existing systems; increase competition in system supply, expansion and operation;
- Maximise the flexibility to meet evolving needs and to introduce new technology
- Provide quality information and the means to use this information, particularly to influence travellers;
- Provide a means to move from existing systems to UTMC systems.

The ability to integrate different ITS systems greatly increases their effectiveness by ensuring there is a rapid and reliable flow of information. Birmingham's ITS systems have been introduced incrementally over time, but integration has often not occurred, making it more difficult to exchange information between organisations.

The benefits of UTMC are:
- Better co-ordination of wide area strategies
- Lower equipment and operation costs
- Better communication between organisations
- New and more accessible services for users

The UTMC approach allows integration of existing traffic management tools and provides a simple structure for others to be easily added. The key is a Common Database or Data Management Facility which receives data from all the different systems, pools the relevant information and sends outputs to the appropriate system or person.

Figure 1 – UTMC Framework
(Source: UTMC Directory of Case Studies)

3.1.7 Communications Infrastructure

One of the issues which prevented the expansion of ITS networks in the past has been the cost of the communication links that have historically been based on fixed land-line connections. New communication technologies and the UTMC specifications will enable other digital communication techniques to be used. Birmingham has already demonstrated its commitment to embracing opportunities offered by wireless connectivity through the establishment of city centre and community wi-fi networks. The Unified Street Network Programme will seek to develop a seamless combination of wireless technologies to link street lighting, car parking, traffic management and public transport allowing smarter, more responsive, better integrated and more sustainable services.

Birmingham is also committed to build high bandwidth broadband infrastructure into all future city development, including social housing, and to make information available to people through 'Looking Local', Birmingham's interactive digital television service. This will offer significantly enhanced opportunities to provide people with real-time decision making information before and during their journeys.

3.1.8 Co-ordination

Together with the other six West Midland Metropolitan Authorities, Birmingham is taking part in the development of the Road Information Framework (RIF) which draws on Highways Agency (HA), Local Highway Authority's (LHA's) and Department for Transport (DfT) data sources to provide information that contributes to the more effective management of the strategic and local road network. Birmingham will need to exploit the benefits of the RIF project with key partners.

3.1.9 Demand Management

ITS technology can be used to identify vehicles which can be used in different forms of demand management such as road space reallocation, priority vehicle lanes or congestion charging / road user charging.

3.1.10 Emergency Planning

ITS has an important role in supporting how the City Council and other authorities respond to and manage emergencies and incidents; for example, in the case of the tornado incident, Birmingham City Centre evacuation on the 9th July 2005, or in the event of road accidents and burst water mains. Clearly the transport implications are one of a number of important considerations as part of an Emergency Plan.

3.1.11 BCC Roles and Opportunities

ITS can assist in responding to incidents; for example, CCTV coverage can allow them to be monitored while the emergency services are en route as well as being able to direct them efficiently to the location where they are required. The ability to control traffic signals remotely

3.1.12 Policies and Actions

Policy 1:

The City Council will:
- **exploit ITS technologies to improve network efficiency**
- **use technologies to give priority to types of vehicles or users where appropriate**

have a season ticket, or those who travel less regularly through an ability to prepay an amount onto the card. In addition to transport use, smartcards can be used for other local authority services such as libraries and other leisure services.

Centro have a three year rolling programme for the introduction of smartcards on buses. Cards have been issued to concessionary pass holders, and smartcard readers are currently operational on buses along specific routes. Once the infrastructure is in place, smartcards are being introduced for commercial ticketing.

3.2.5 Automatic Vehicle Location

Primarily a tool for operators to assist with fleet management but the information could be used by the City Council to provide additional information with regard to traffic conditions and assist in developing strategies for implementing further bus priority measures.

3.2.6 Policies & Actions

Policy 2:			
The City Council will continue to support the use of ITS to deliver local bus and rail use targets and other measures for increasing levels of public transport and passenger satisfaction.			
Priorities for Action:			
Ref:	**Activity**	**Responsible Stakeholder**	**Timeframe**
A7	Deliver priority vehicle measures to assist reliability of public transport	BCC Public Transport Operators	Ongoing
A8	Provide real time information at public transport interchanges	Centro / ITA Public Transport Operators	Ongoing
A9	Expand opportunities for the use of smartcard technology for public transport ticketing	BCC Digital Birmingham Centro / ITA Public Transport Operators	2011/2012

STRATEGIC POLICY

3.3   Improving Freight Efficiency

Freight movement is an essential element in the national, regional and local economies. In 2009, 152 million tonnes of road freight was lifted within the West Midlands region, with 53 million tonnes destined outside the West Midlands conurbation. (DfT Regional Transport Statistics, 2010 Edition). Many additional freight vehicles travel through the West Midlands on route to other destinations.

ITS can help the freight industry to utilise road conditions more efficiently and environmentally sustainably. Efficiency in road freight logistics and deliveries can be supported via in-vehicle systems that offer route guidance and scheduling tools that enable better fleet and driver management. Satellite tracking is also being increasingly used.

3.3.1 West Midlands Regional Freight Strategy

The City Council is actively involved with both the West Midlands

STRATEGIC POLICY

3.4 Improving Road Safety

Birmingham, together with the other six West Midlands Metropolitan Authorities, has adopted challenging road casualty reduction targets in the current Local Transport Plan (LTP2) and the Draft Local Transport Plan 3, respectively.

ITS contributes to improving road safety in a number of ways:

3.4.1 Enforcement

There are various types of safety cameras used for enforcement purposes:
- Speed cameras
- Red-Light cameras
- Time and Distance cameras
- Automatic Number Plate Recognition (ANPR) cameras

Current and future provision of Speed cameras and Red-Light cameras are the responsibility of the West Midlands Road Safety Partnership.

Time and Distance cameras are used elsewhere in the UK, mainly by the Highways Agency, to control speed, particularly in roadworks. They also offer the ability to monitor journey times and provide information on traffic flows.

ANPR cameras have been introduced by West Midlands Police around the City Centre on or near the ring road. The Police use the ANPR cameras for vehicle monitoring purposes. The technology could be used to assist with the additional enforcement responsibilities which are likely to affect Birmingham (i.e. moving traffic offences – use of bus lanes etc) as a result of Part 6 of the Traffic Management Act 2004. Deployment would be in accordance with national protocols and guidance.

3.4.2 CCTV cameras

CCTVs are used for monitoring sites where concerns about road safety have been raised and can be used to modify behaviour. Technology now allows for cameras that automatically identify when an incident has taken place and alert UTC. Deployment would be in accordance with the Council's CCTV guidance.

3.4.3 Intelligent Traffic Signals

Modern traffic signals incorporate technology to help improve pedestrian safety. Toucan and Puffin crossings use sensors to modify crossing times to take account of pedestrian flows. The City Council has raised safety concerns with Puffin crossings as they can cause

confusion to users who are more familiar with Pelican and Toucan crossings which use pedestrian signals that are located on the far side.

3.4.4 Information for drivers

Variable Message Signs are already used to advise drivers of adverse weather conditions or hazards and other potential problems as well as providing route guidance.

Speed Activated Signs are used to help reinforce speed limits to warn drivers to adhere to speed limits. In addition, specific message signs

3.4.8 Policies & Actions

Policy 4:			
The City Council will continue to explore opportunities in terms of new ITS technologies that offer road safety improvement subject to funding availability.			
Priorities for Action:			
Ref:	**Activity**	**Responsible Stakeholder**	**Timeframe**
A12	Develop targeted use of cameras to improve road safety due to excessive speed or failure to comply	BCC Police	2012

A13   Expand the use of activated signs at sites where

STRATEGIC POLICY

3.5   Improving the Environment

3.5.1   The use of ITS technologies can provide significant opportunities to reduce the environmental burden of transport networks, notably through:

- Improved vehicle technology which reduces exhaust emissions (more efficient engines so more miles per gallon and less CO_2 emissions, fewer emissions which cause air quality concerns)
- Enabling more efficient use of road space, thus reducing congestion and associated exhaust emissions
- Traffic light management which optimises for local air quality (this facility is available for use now but has not been explored - it could prove particularly beneficial where buses and / or HGVs frequently have to queue uphill at traffic lights)
- Smoothing traffic flow thereby reducing high levels of exhaust emissions caused by stop-start driving techniques
- Improved vehicle route planning (pre-journey and in transit) leading to less miles being travelled and congestion hot-spots being avoided
- Reducing traffic levels by providing smooth and efficient public transport alternatives and / or by providing good online journey planning and / or incentives to travel by more environmentally - friendly modes.
- Using low power or alternative power technologies for all new and replacement ITS.

3.5.2 BCC issues and opportunities

From a City Council perspective, it is important to ensure that current and future ITS applications are used to help minimise the impact of transport on the environment – i.e. both physical and climate.

ITS can contribute positively to both air quality and wider environment sustainability objectives. For example: Variable Messaging Signs and car park management systems can improve journey reliability and reduce delays and also result in reduced emissions.

The use of SCOOT at signalised junctions can also be used by the UTC to ensure that vehicle emissions are reduced by managing traffic flows.

ITS technologies which support more efficient use of the existing road infrastructure or encourage the use of non-car modes can help reduce the need for additional infrastructure.

3.5.3 Polices and Actions

Policy 5:
The City Council will ensure that the environmental impacts of using ITS technologies are considered when developing programmes and explore the potential of ITS technologies to address environmental improvement targets.

Priorities for Action:

Ref:	Activity	Responsible Stakeholder	Timeframe
A14	The City Council will develop an Environmental and Social Impact checklist (Appendix C) which highlights both positive and negative effects of ITS applications	BCC	2011
A15	The City Council will explore the potential of ITS applications to assist in the achievement of its carbon reduction targets.	BCC	2011

LOCAL POLICY

3.6   Improving Travel Information

It is important that information is available in an easily accessible medium so people can make informed choices about when and how to travel. ITS offer the opportunity to collect and distribute accurate and reliable real time information.

Generally information can be defined in two groups:
- Pre-journey
- In-journey

3.6.1 Pre-journey

Pre-journey information has traditionally been available via TV (Ceefax etc) and radio. The internet has enabled much more up to date information to be made available and allows the users to tailor their information requirements.

There are a number of sources of pre-journey information available to travellers in the West Midlands:

3.6.2 MATTISSE

MATTISSE is a regional multi-modal traveller information system. It shares information between the MATTISSE Consortium and other service delivery partners:
- The seven West Midlands Local Authorities;
- Leicester City Council;
- West Midlands Police;
- Central Motorway Police Group;
- Public Transport Operators; and
- The Highways Agency.

MATTISSE draws data from existing systems such as UTC and public transport real time Information together with manual inputs. The information is made available through:
- Internet - www.help2travel.co.uk
- Kiosks in the Bull Ring
- Mobile phones
- Public Space Large Screen Displays (e.g. at Hospitals)

The roll-out of the UTC Major Scheme will deliver a step change in the availability of data. Plans are currently being developed to integrate MATTISSE data with UTMC data to provide a more comprehensive common database for the benefit of both travellers and traffic managers.

3.6.3 Local Information

Information on journey planning is available from a number of web sites:

- help2travel.co.uk (www.help2travel.co.uk)
  Help2travel provides a public interface to the travel information that is exchanged within the MATTISSE system. It provides information on planned and current road disruptions, maps, information on car parking (and real time information on availability of spaces in some car parks) and links to information for other modes of transport.

- Network West Midlands (www.networkwestmidlands.co.uk)
  Network West Midlands provides information on local public transport; bus, train and metro, including fares, timetables and real time information.

- Travelinemidlands website: (www.travelinemidlands.co.uk)
  This site offers journey planning and information. The service also provides a call centre for public transport enquiries on 0871 200 22 33.

- The Government has also developed Transport direct (www.transportdirect.info) to provide a national, comprehensive and easy to use multi-modal travel information and ticketing service.

- Walkit.com provides an online system that will enable users to make more informed decisions about whether to walk for all or part of any given journey within the West Midlands Metropolitan area.

- National Rail and other public transport operators also have their

The vast range of websites which are available could potentially create confusion for users. Birmingham City Council will continue to work with partners to promote user-friendly solutions tailored to local needs.

In addition on-street electronic information kiosks can provide useful sources of information on a variety of issues including travel options.

3.6.4 In-journey information

In-journey information is becoming increasingly accessible via a number of channels using global positioning information for real time or static use; e,g, TMC, RDS. In addition many mobile devices now provides real-time interactive mobile applications for transport; e.g. Apps for iPhone, Android and Windows Phone. Mobile devices also enable access to services such as Texttime which uses SMS text messaging to provide bus times.

3.6.5 Local Information

Currently the Birmingham's UTC provides traffic information to Trafficlink who provide the information for **TV and radio** bulletins.

Variable Message Signs at the roadside offer the ability to provide real-time, visual messages to advise on potential problems. Currently the City Council operates 12 of these VMS. The City Council plans to expand the use of VMS particularly within the city centre to advise of parking space availability. Eventually it is planned to provide larger matrix signs on all radial routes which can provide information on problems on the highway, incidents or planned events.

Display Screens in workplaces, hospitals etc (a number have recently been provided at various locations as part of the MATTISSE / help2travel programme) can be valuable in providing travel information.

Information generated by the City Council and other sources can be used by **Sat-Nav** system providers to provide real-time in-vehicle information to people travelling by car.

A20	Work with Telent and key partners to develop and implement the work packages in the MATTISSE project.	BCC Other West Midlands Authorities Telent	Ongoing
A21	Work with city and regional partners to identify and develop transport and connectivity opportunities offered by the Intelligent City Agenda.	BCC Other West Midlands Authorities Digital Birmingham	2011

LOCAL POLICY

3.7   Improving Security and Reducing Crime

Security is a major factor in transport systems and infrastructure and will continue to be so for the foreseeable future. Security includes the

3.7.3 Automatic Number Plate Recognition

Automatic Number Plate Recognition (ANPR) cameras could be of benefit to the City Council in terms of journey time monitoring as well as enforcement. The Police could also use ANPR cameras to check on vehicles currently entering and leaving the City Centre (the so called 'Ring of Deterrent'). The ANPR cameras can be used to detect the presence of known suspected offenders i.e. the so called 'hot' plates. In addition the Transport Act 2000 provides powers for local authorities outside of London, to take on from the Police the enforcement of bus lanes and other moving traffic offences. Deployment of such cameras for the required purpose must be subject to appropriate approvals and consultations.

Feasibility work is being undertaken in order to develop a programme of bus lane enforcement in Birmingham in order to help meet the Council's duties as Highway Authority under the Traffic Management Act 2004.

3.7.4 Emergency Help Points

There are 6 help points for visitors in the city centre. When these are activated, a CCTV camera focuses on the area and the unit is connected to an operator in the Control Room. In future, where the intensity of street lights is controlled by central computer, it will also be possible to increase levels of illumination in the incident area.

3.7.5 Public Transport

Centro uses CCTV to monitor bus stations, and railways stations with their associated car parks. Centro has a contract with the City Council's Control Room which monitors the majority of Centro's cameras in Birmingham.

In addition Centro has 23 bus shelters that are covered by CCTV. This has been a result of where repeated vandalism has taken place in the past. Centro will continue to install CCTV at bus shelters where there are safety and security issues.

National Express West Midlands have CCTV on virtually all of their services to deter crime. The cameras record footage which can be used as evidence in the event of an incident. Some of the services have large display screens which relay the footage to reinforce the message that the CCTV is live. Images from the buses are managed by the local bus garage, at National Express West Midlands' expense.

3.76 Emergency Planning

As identified at 3.1.10 the use of ITS can much enhance the response to emergencies e.g. a UTMC system can help to manage traffic in order to clear an area of the City as well as manage diversions.

3.7.6   Policies and Actions

4   Framework for Change

4.1   New ITS implementation

4.1.1   There has already been a considerable amount of investment in ITS in Birmingham over recent years and it will not be an option to provide new equipment in one go. Instead it will be necessary to build on and develop the existing infrastructure incrementally so that the benefits identified in this report can be realised.

4.1.2   Birmingham City Council has signed a 25-year partnership agreement with a private contractor, Amey, to ensure that Birmingham's highway network, including traffic management and control infrastructure, is maintained in line with national standards. The arrangement involves a 'Core Investment Period' during which the contractor brings the infrastructure up to an agreed standard, followed by a maintenance period. The contractor Amey is obliged to ensure that no Traffic Signal Controller in Birmingham is more than 15 years old, and that the Council's Urban Traffic Control is enhanced to national Urban Traffic Management control standards.

4.1.3   All new applications or the extension of existing applications should meet UTMC standards. Existing systems will be integrated and upgraded to UTMC in a phased manner as they are renewed or as required. Initially, many of the advantages of UTMC can be achieved by upgrading and integrating the central systems and the communications networks. An open framework approach to ITS will allow their implementation in a modular approach. This will enable new installations at different locations across the City, depending on the specific requirements at the time.

4.1.4   Some ITS implementation may require traffic modelling and design work in order to allow the details of the scheme to be developed and a business case prepared. Modelling of the road network may be needed to inform the design of the control and monitoring infrastructure and to help evolve operational strategies for managing the network using the ITS measures that are put in place.

4.1.5   The process of further development of this ITS strategy and any associated programme will make use of the advice and recommendations available from DfT, ITS Assist and the Highways Agency.

4.2   Performance Monitoring

4.2.1   ITS need to be monitored to ensure that the day to day operation of the systems is optimised and to ensure that they are delivering the expected benefits. The indicators are likely to vary depending on the systems introduced.

4.3 Operation, Maintenance and Management

4.3.1 It will be important to ensure that equipment is maintained and managed effectively and that the fault management regimes are suitable to ensure that when things go wrong, downtime is kept to a minimum.

4.3.2 It is necessary to ensure that

APPENDIX A - Glossary of Terms

ANPR   Automatic Number Plate Recognition

ASTRID   Automatic SCOOT Traffic Information Database

ATM   Active Traffic Management

CCTV   Closed Circuit Television

CO2   Carbon Dioxide

DfT   Department for Transport

DTI   Department for Trade and Industry

EU   European Union

HA   Highways Agency

ISA   Intelligent Speed Adaptation

ITIS   Integrated Transport Information Systems (Company Name)

ITS   Intelligent Transport Systems

KSI   Killed or Seriously Injured

LHA   Local Highway Authority

LTP   Local Transport Plan

MATTISSE   Midlands Advanced Transport and Telematics Information
            System for Strategies in Europe

MOVA   Microprocessor Optimised Vehicle Actuation - is an adaptive
            traffic signal control system

RCC   Regional Control Centre

RDS   Radio Data System

RFAG   Regional Freight Advisory Group

RIF   Road Information Framework

RSS   Regional Spatial Strategy

RTPI   Real Time Passenger Information

SatNav	Satellite Navigation
SCOOT	Split Cycle Offset Optimisation Technique
SMS	Short Message Service
SVD	Selective Vehicle Detection
TMA 2004	Traffic Management Act 2004
TMC	Traffic Message Channel
UTC	Urban Traffic Control
UTMC	Urban Traffic Management & Control
VMS	Variable Message Signs
Wi-Fi	Wireless Fidelity
WMFQP	West Midlands Freight Quality Partnership

Figure 1 – UTMC framework (Source: UTMC Directory of Case Studies)

The UTMC integrated approach offers the following advantages:

- a more accurate picture of network conditions can be created by combining information from different sources

- incidents and breakdowns can be identified more quickly and easily

- strategies can be developed to deal with recurrent congestion at specific locations

- consistent information is provided to operators and the public

- different organisations (e.g. BCC, HA, Police) can exchange data more efficiently

- transport authorities can work together better to improve traffic flow

- equipment from different suppliers will be compatible

APPENDIX C – Environmental and Social Impact Checklist for ITS schemes

This checklist can also be used as a basis for developing a monitoring programme if a scheme goes ahead.

Item	Question	Reason for question

| 4 | Can the environmental and social impacts to produce, transport, commission, maintain, remove and dispose of all the necessary equipment be justified taking into account the likely useful life-time of the equipment? Can these impacts be reduced? – consider on-street equipment, control room equipment and in-car equipment. | Need to consider the whole life aspects of the products in terms of use of finite natural resources, production impacts, construction/installation impacts, ease of re-use/dismantling/recycling and final pollution to land, water and air, including release of greenhouse gases. |