



Department for
Infrastructure

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Northern Ireland's **INTELLIGENT TRANSPORT SYSTEMS (ITS)**

ITS STRATEGY VISION 2025



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FOREWORD

In support of the delivery of the draft Programme for Government (PfG), the Department for Infrastructure (DfI) places a high priority on the application of Intelligent Transport Systems (ITS) to maximise the use of the road network for all users and to encourage a change of travel mode from the private car to public transport and other sustainable modes such as walking and cycling.

The ITS Strategy 2025 is closely linked and aligned with the DfI Digital Strategy 2016-2019 which is driving the transformation of how the Department delivers and maintains its services. Within a constrained budget, staffing landscape and end of life ITS systems the need for the Department to optimise resources whilst also improving service delivery is a major challenge but also an opportunity.

This strategy sets out how DfI intends to meet these challenges by identifying some of the key actions and priorities structured around 7 key objectives. These are:

- Traffic Management and Control
- Network Information and Communications
- Incident Management
- Infrastructure Maintenance and Improvement
- Road Safety
- Resilience and Business Recovery
- Emerging ITS Opportunities

The key objective - "Emerging ITS Opportunities" reflects some of the opportunities that are likely to feature over the period of the strategy. ITS is ever changing with new and exciting technologies and ideas emerging all the time. The Department wants to remain at the forefront in embracing these new ideas. Through the use of Internet of Things (IoT), Mesh networks, innovative mapping tools and the implementation of smart technologies, the Department's vision is to develop ITS systems which are highly available, reliable, secure and can respond to our customers' needs whilst also providing the opportunities to enable data sharing, Open Data compliance, data analysis, data driven decision making and more efficient and intelligent working.



The Department's ITS Vision is

“To efficiently, effectively and safely connect and inform all road users through the innovative use of ITS and Travel Information”

GLOSSARY

ANPR	Automatic Number Plate Recognition
BRT	Belfast Rapid Transit
CCTV	Closed-Circuit Television
C-ITS	Cooperative Intelligent Transport Systems
DfI	Department for Infrastructure
EU	European Union
EW1/2	EasyWay Project
GSM	Global System for Mobile communications
HATMS	Highways Agency Traffic Management System
HOV	High Occupancy Vehicle
ICT	Information and Communications Technology
IOT	Internet of Things
IP	Internet Protocol
IT	Information Technology
ITS	Intelligent Transport Systems
LED	Light Emitting Diode
M2M	Machine to Machine
MaaS	Mobility as a Service

MIDAS	Motorway Incident Detection and Automatic Signalling
MOVA	Microprocessor Optimised Vehicle Actuation
NMCS	National Motorway Communication System
QBC	Quality Bus Corridor
PGF	Programme for Government
PSNI	Police Service Northern Ireland
RTPI	Real Time Passenger Information
SCOOT	Split Cycle and Offset Optimisation Technique
SPTO	Senior Professional Technology Officer
TCO	Traffic Control Operator
TICC	Traffic Information and Control Centre
TIS	Transport Information Systems
TLP	Traffic Light Priority
UTC	Urban Traffic Control
VMS	Variable Message Sign
VMSL	Variable Mandatory Speed Limit

DEPARTMENT FOR INFRASTRUCTURE



The Department for Infrastructure (DfI) is one of nine Northern Ireland Departments. The main responsibilities of the Department are:

- regional strategic planning and development policy
- transport strategy and sustainable transport policy
- public transport policy and performance
- road safety and vehicle regulation policy, including strategies to reduce the number of people killed or seriously injured on our roads
- driver and operator licensing and driver and vehicle testing
- provision and maintenance of all public roads
- certain policy and support work for air and sea ports
- river and sea defence maintenance and the construction of flood alleviation schemes
- provision of flood maps and risk information
- policy on water and sewerage services and management of the Department's shareholder interest in Northern Ireland Water

The key purpose of the Department for Infrastructure is building for the future - connecting people and opportunities through our infrastructure.

CONTEXT

ITS Strategy Update 2009-2015

This ITS strategy succeeds the Department's ITS Strategy Update 2009-2015 and builds upon its achievements. Notable achievements include:

Network Management

- Introduction of full-time dedicated Traffic Control Operators (TCOs) and enhanced TICC hours of Operation
- Bus priority deployed to all QBCs in Belfast
- SMART Motorways feasibility study completed
- Introduction of Variable Mandatory Speed Limits (VMSL) on M1 / A12 Westlink. First time in UK/Ireland that VMSL has been used on a non-motorway all-purpose road such as the A12 Westlink

Road Safety

- Introduction and rollout of Puffin crossings to Northern Ireland

Travel Information

- Enhanced travel information with the introduction of social media
- Upgrade of Strangford ferry VMS control platform

Sustainability

- Significantly increased usage of LED and Extra Low Voltage Technology to reduce energy consumption
- Migration of UTC system onto an IP platform to ensure it continues to remain secure and robust realising 50% reduction in on-going resource costs.

Programme for Government (draft)

The Department for Infrastructure (DfI) delivers services to every citizen, visitor and business in the region multiple times a day. DfI is a key contributor to a number of the Executive's draft Programme for Government (PfG) outcomes, from unlocking the economic potential of the region, to tackling disadvantage, to protecting the environment and in promoting the health and wellbeing of our citizens. The Department leads on Outcome 13 - We connect people and opportunities through our infrastructure. In addition, the Department makes a particular contribution to Outcome 2: We live and work sustainably - protecting the environment. A region's infrastructure is both a key enabler and driver of economic growth and equally, absence of infrastructure can be an inhibitor to that growth. Of its nature, infrastructure requires long term planning and sustained focus on delivery to meet the estimated needs of society a generation ahead as well as to tackle any short-term issues which arise.

Investment in our infrastructure is vital to provide the physical and digital connectivity to allow Northern Ireland to compete on the global stage. That connectivity needs to be regionally balanced to ensure a level playing field of opportunity in terms of access to market and ability to establish and grow businesses. It also, however, needs to take account of the specific current and future economic needs of the region - that includes in infrastructure terms the need to invest in better access to major population and business centres through our strategic road network in the West, and the need to support economic and housing growth including through enhancements to our digital infrastructure.

PROGRAMME FOR GOVERNMENT (DRAFT) FRAMEWORK

OUTCOMES

INDICATORS

13 We connect people and opportunities through our infrastructure



- Average journey time on key economic corridors
- Proportion of premises with access to broadband services at speeds at or above 30Mbps
- Usage of online channels to access public services
- % of all journeys which are made by walking/cycling/public transport
- Overall Performance Assessment (NI Water)
- Gap between the number of houses we need, and the number of houses we have

02 We live and work sustainably - protecting the environment



- % all journeys which are made by walking/cycling/public transport
- Greenhouse gas emissions
- % household waste that is reused, recycled or composted
- Annual mean nitrogen dioxide concentration at monitored urban roadside locations
- Levels of soluble reactive phosphorus in our rivers and levels of Dissolved Inorganic Nitrogen in our marine waters
- Biodiversity (% of protected area under favourable management)

Regional Development Strategy

The Regional Development Strategy 2035 is the spatial strategy of the Executive. Its purpose is to deliver the spatial aspects of the draft Programme for Government. It complements the Sustainable Development Strategy and informs the spatial aspects of the strategies of all Government Departments.

The Strategy is a long-term plan which recognises the important role Belfast plays in generating regional prosperity and that Londonderry is the focus for economic growth in the North West region. To ensure that all places benefit from economic growth, the Strategy reflects the draft Programme for Government approach of balanced sub-regional growth and recognises the importance of key settlements as centres for growth and investment.

It recognises there is a need to understand the role and function of settlements and their role in serving rural communities and the importance of promoting co-operation between places. It encourages clustering of towns and cities so that services can be shared and do not need to be duplicated. It identifies those settlements within close proximity to each other which have the potential to cluster.

We must also plan to deal with climate change as a key environmental and economic driver. It is important that we in Northern Ireland play our part by reducing greenhouse gas emissions and that we plan for the impacts which climate change brings. The Strategy sets out measures on transport, energy and the location of jobs

and houses to help address and adapt to these important issues.

Sustainable communities are at the heart of what we do. It is important that we maximise the use of existing infrastructure and services and that we create places which are safe and inclusive and offer equality of opportunity. The Strategy is not limited to land use but recognises that policies for physical development have far reaching implications. It therefore addresses economic, social and environmental issues aimed at achieving sustainable development and social cohesion.

More information about the Regional Development Strategy can be found at <https://www.infrastructure-ni.gov.uk/sites/default/files/publications/infrastructure/regional-development-strategy-2035.pdf>

Departments Digital Strategy

The DfI Digital Strategy outlines the Department's planned development of Information and Communications Technology (ICT) over the period May 2016 to March 2019. The DfI Digital Vision is to be 'a citizen-centric and digital services Department' where we promote citizen service improvements through use of technology. The Department is currently in the process of developing the Digital Strategy 2019-2022 which will focus on the utilisation of new technologies and embracing other European strategies such as Smart Infrastructure, Smart Cities. This will set the strategic direction in terms of utilising technology in the development and implementation of the Department's transport strategies.



The DfI Digital Vision is to be 'a citizen-centric and digital services Department' where we promote citizen service improvements through use of technology.

European Context

Dfl is a partner in a Euro-Regional partnership called STREETWISE. The other partners are:

- Department for Transport
- Highways England
- Transport Scotland
- Welsh Government
- Transport for London
- Transport Infrastructure Ireland

Whilst the STREETWISE partnership was originally formed in response to the need to form Euro Regional Projects for previous European Programmes, the body remains an efficient means of engaging in the current and future European ITS projects. This is because partners are able to share resource and information and reach a common approach to engagement. This has particular merits when seeking to provide a UK and Ireland unified position in respect to possible European policy or standards.

Engagement in STREETWISE involves a high degree of liaison and coordination not only because of the number of partners in the organisation, but also due to the complexity of the current European project arrangements as well as the need to participate, communicate and share information with these projects and, importantly, to promote a common UK and Ireland position within Europe. An example of this approach working effectively for the benefit of the UK and Ireland, was the unified position taken in respect to the development and application of the ITS Deployment Guidelines.

STREETWISE has been involved in the following European projects:

- The EasyWay Projects phase I (2007-2009) and phase II (2010-2012) were co-funded by the European Commission and are part of the EasyWay Global Programme 2007-2020. The core objective of EWI/II was to deploy Europe wide ITS Core Services for the benefit of the road users. By doing so, the Programme supports the transport policy goals concerning road safety, environmental impact from transport and mobility.
 - The Arc Atlantique Corridor phase I (2013-2015), phase II (2014-2017) and phase III (2017-2020) will deliver improvements to the Trans- European Road Network stretching from Ireland to Spain through the wider deployment of ITS systems and services. The deployments consist of a series of ITS technologies and services which have known and proven impacts on the efficiency of the road network.
-

INTELLIGENT TRANSPORT SYSTEMS (ITS) WITHIN DFI

What is ITS?

Intelligent Transport Systems (ITS) is the collective name given to a range of systems and services which enhance the movement of people and goods by optimising safe and effective management of the existing road infrastructure and the provision of reliable and timely travel information. It includes monitoring equipment such as CCTV and traffic detection sensors, speed control and queue management via gantry signals; and informing travellers using Variable Message Signs (VMS), web services, smartphone apps, news feeds and social media. It also encompasses the growing field of connected and autonomous vehicles which are expected to have significant benefits for road safety and in transforming how realtime traffic monitoring and analysis can be carried out. DfI places a high priority on the application of ITS in helping to achieve its Vision and Objectives.

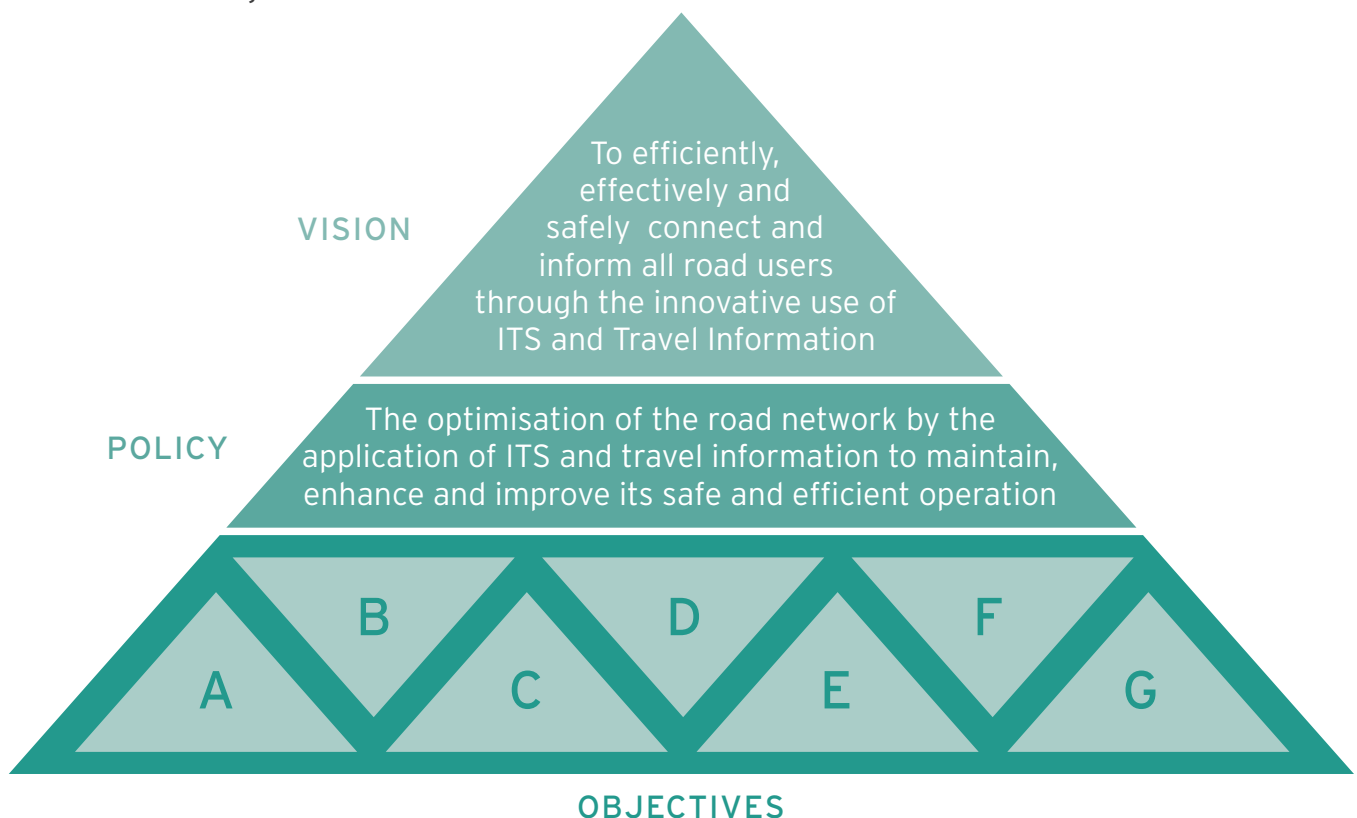
DfI Vision and Policy for ITS

The Department's ITS Vision is

“To efficiently, effectively and safely connect and inform all road users through the innovative use of ITS and Travel Information”

The Department's Policy on ITS is

“The optimisation of the road network by the application of ITS and travel information to maintain, enhance and improve its safe and efficient operation”



DFI OBJECTIVES FOR ITS

The Department's objectives for ITS over the period of the strategy are as follows:

- **OBJECTIVE A**
Traffic Management and Control:
Providing, maintaining, managing and reviewing systems, strategies and infrastructure to maximise the efficiency of the network.
 - **OBJECTIVE B**
Network Information and Communications:
To provide credible, reliable, and timely traffic information that meets our customers needs.
 - **OBJECTIVE C**
Incident Management:
Working collaboratively to ensure adequate procedures, processes and systems are in place to respond effectively and efficiently to incidents such that Road Users are kept safe and delays to journeys minimised.
 - **OBJECTIVE D**
Infrastructure Maintenance and Improvement:
Ongoing investment in sustainable ITS systems and infrastructure to minimise ongoing resource needs whilst maximising performance.
 - **OBJECTIVE E**
Road Safety:
Working collaboratively with stakeholders to provide, maintain and manage systems, strategies and infrastructure that enhance the safety of the road network.
 - **OBJECTIVE F**
Resilience and Business Recovery:
Ongoing investment in ITS systems and infrastructure to ensure they remain robust, secure, expandable and open platform.
 - **OBJECTIVE G**
Emerging ITS Opportunities:
Ongoing horizon scanning to identify emerging innovations and opportunities to adopt new technology and ways of working that will enable us to deliver an enhanced service to our Customers.
-

These objectives are developed and prioritised around the actions in the table below.

Priority actions are highlighted

OBJECTIVE A: Traffic Management & Control

TICC	DfI Roads Divisions	
✓		Review the Traffic Control Rooms continued layout suitability
✓	✓	Increase CCTV coverage for traffic flow monitoring esp. along BRT routes in Belfast, Strategic routes e.g. A1/A5/A6 and in towns/cities outside Belfast where required
✓		Put in place a system of mobile CCTVs to monitor traffic conditions for events, temporary roadworks etc
	✓	Evaluate the effectiveness of signal installations outside of Belfast esp. Derry
✓		Review signal timings in Belfast to ensure they remain optimised for prevailing traffic conditions
✓		Continue to support Public Transport by deploying M2M Traffic Light Priority on existing and new routes in Belfast. Provide support to TLP deployment elsewhere in NI as required.
✓		Develop proposals for SMART Motorways, hard shoulder running and High Occupancy Vehicle (HOV) lanes. Implement as funding allows.
✓	✓	Continue to deploy traffic control strategies such as SCOOT, MOVA and UTC as required and ensure they continue to be optimised for traffic conditions.
✓	✓	Consider potential synergies and benefits of linking CCTV systems already deployed throughout DfI Roads to TICC.
✓		Ensure Traffic Control Operators (TCOs) remain fully trained in system operation and procedures remain up-to-date.



OBJECTIVE B: Network Information and Communications

TICC DfI Roads Divisions

- ✓ Review and upgrade TrafficwatchNI with additional functionality e.g. social media, additional camera feeds, congestion mapping etc
- ✓ Expand journey times information (on-trip & pre-trip) to Road Users by expansion of the ANPR system and continued partnership with the PSNI. Investigate alternative third party providers
- ✓ ✓ Inform Road Users by continued deployment of Variable Message Signs on both the Trunk and Urban networks.
- ✓ Take advantage of opportunities to work with partners across the transport modes and support Translink in the deployment of travel information such as journey time predictions on Metro/BRT/ Ulsterbus routes, Park and Ride sites and on the BusTracker App
- ✓ Continue to build relationships and work with local media broadcasters and internal stakeholders to deliver an enhanced traffic information service.



OBJECTIVE C:		Incident Management
TICC	DfI Roads Divisions	
✓	✓	Improve responses to incidents by increasing CCTV coverage for traffic flow monitoring
✓		Develop & periodically review the DfI / PSNI joint Protocol for the management of major incidents and events in the rural and motorway/trunk road network
✓		Investigate potential improvements and additional functionality to the TrafficwatchNI Emergency News page
✓		Investigate additional social media to alert road users of abnormal traffic conditions such as Facebook, Whatsapp, push notifications etc. Continue email alert and Twitter
✓	✓	Inform Road Users of incidents and alternative routes by continued deployment of Variable Message Signs on both the Trunk and Urban networks.
✓	✓	Consider potential synergies and improved response to incidents by linking CCTV systems already deployed throughout DfI Roads to TICC.
OBJECTIVE D:		Infrastructure Maintenance & Improvement
✓	✓	Continued rollout of LED, extra low voltage and other signal technology to reduce future maintenance needs, improve performance and reduce energy consumption
✓		Develop an asset management system with a prioritised system/equipment upgrade programme
OBJECTIVE E:		Road Safety
✓	✓	Pilot remote monitoring of Safer Routes to School Signs and if successful deploy as funding allows
✓		Develop & periodically review the DfI / PSNI joint Protocol for the management of major incidents and events in the rural and motorway/trunk road network
✓	✓	At pedestrian crossings, review and update Pedestrian crossing times
✓	✓	Evaluate pilot part time 20mph sites at schools and rollout on a wider basis if successful and funding allows
✓	✓	Keep Road Users safe by continued deployment of Variable Message Signs on both the Trunk and Urban networks.
✓	✓	Continued deployment of Safer Routes to School and Vehicle Activated Signs as required.
	✓	Ensure Foyle Bridge Safety Management System remains fit for purpose.

OBJECTIVE E: Road Safety (cont)

TICC	DfI Roads Divisions	
✓		Continue with MIDAS roll out on the strategic route network to enable a faster detection of incidents.
✓		Continue to support and facilitate the Safety Camera Partnership Project.
	✓	Use technology, such as CCTV and journey time systems to improve safety at roadworks.
✓	✓	At pedestrian crossings, continue to provide facilities for the visually and hearing impaired.
✓	✓	To aid early detection of faults continue to deploy remote monitoring of pedestrian crossings.
✓	✓	Continue to support our road safety partners by displaying road safety messaging on electronic signage in relation to road safety media campaigns.
✓	✓	Continue to support and facilitate through ITS measures, the implementation of the Road Safety Strategy 2020.

OBJECTIVE F: Resilience & Business Recovery

✓		Upgrade Trafficwatchni to remain secure and robust
✓	✓	Work with the Department's IT Security to undertake a programme of annual IT Healthchecks on TICC / ITS systems e.g. TrafficwatchNI, RTPI, UTC and Motorway Control Systems, Foyle Bridge Safety System
✓		Develop a TICC Roadmap of prioritised costed system upgrades
✓		Complete the upgrade of the TICC CCTV system to an IP Platform end-to-end which will enable access to the system remotely from TICC
✓		Implement preferred option for the replacement of the HATMS Motorway Control System once Highways England ceases to support it in 2021
✓		Upgrade the end-of-life Emergency Motorway telephone instation system
✓		Upgrade the Motorway transmission network from analogue to IP and implement a ring network to improve resilience
✓		Investigate options to prevent damage to copper/fibre network through the York Street Interchange works
✓		Test TICC ITS Business Continuity and Disaster Recovery Plan on a regular basis esp. the critical TICC systems
✓		Continually review resilience and security of the TICC building.

OBJECTIVE G: Emerging ITS Opportunities

TICC	DfI Roads Divisions	
✓		Investigate uses for 3 rd party data such as congestion mapping, Journey times, network modelling tool etc
✓		Investigate opportunities to use small hand-held devices (e.g. Go-Pro's) to fill gaps in the network
✓		Investigate methods / technologies that could reduce signal upgrade costs and/or reduce associated disruption.
✓		Look for opportunities to enhance and expand the role of TICC and the services that TICC can provide.
✓		Monitor Internet of Things (IoT), Smart City developments, Mobility as a Service (MaaS) etc and how these can enhance the traffic and travel Information service we provide.
✓		Monitor developments in Connected vehicle ITS (C-ITS) and how this might impact on the various traffic control systems (e.g. Urban Traffic Control & Motorway Control systems) in use by the Department.
✓		Monitor ITS developments in on-street parking
✓		Support data exchange by publishing TICC data on open data platforms to enable data sharing, Open Data compliance, data analysis, data driven decision making and more efficient and intelligent working.
✓		Monitor ITS developments in the movement of freight across the EU
✓		Monitor developments in intelligent road studs and dynamic road markings
✓		Monitor developments in demand management strategies such as queue re-location, ramp metering, road pricing, congestion charging etc
✓		Work with others on the possible uses of ITS to mitigate the pollution effects of traffic emissions and noise.
✓		Monitor Brexit developments for possible implications to cross border traffic and any possible ITS needed to facilitate.
✓	✓	Explore opportunities to reduce ongoing data transmission costs through innovative solutions such as IoT, GSM, mesh networks etc

BENEFITS OF ITS

In 2013, TICC undertook an evaluation on the introduction of Variable Mandatory Speed Limits (VMSL) on the M1/A12 Westlink section in Belfast. VMSL are used to reduce the speed limit during peak congestion to ease traffic flow, reduce congestion and improve safety and journey time reliability.

The evaluation found:

- On average, there was an increase in the maximum throughput along the section,
- Average journey times marginally improved between M1 Junction 3 and A12 York Street but some noticeable improvements were observed particularly on Mondays where southbound journey times decreased by 14%,
- Overall journey time reliability (i.e. predictability) improved; and
- The level of service provided was generally maintained.

As a result of the above, the following 30 year economic benefits realised in terms of weekday average journey times were estimated:

- Benefits from reduction in average journey times: £51.6 m (€61.2m)
- Benefits from increased journey time reliability: £30.3m (€35.9m)

These evaluation findings are comparable to the findings reported from the monitoring and evaluation of smart motorway schemes in England.

The benefit of providing travel information to the public on variable message signs (VMS) was reviewed by TICC in 2015. This concluded that VMS installed on the Northern Ireland road network encouraged motorists to take the advice provided and avoid areas affected by congestion. Similar studies from across Europe have demonstrated safety benefits, noted that the public consider VMS as a useful and informative system and that there is a strong preference for signs to display more information, more regularly.

Further information on the benefits of ITS can be obtained from ITS UK at this link <http://its-uk.org.uk/wp-content/uploads/2017/02/ITS-UK-Benefits-of-ITS.pdf>



HOW WE WILL DELIVER THE ITS STRATEGY

The purpose of the ITS Strategy is to provide the overall Departmental ITS Vision. It is not intended to be a fully itemised, prioritised and costed document but describes at a high level the general direction of travel. This Strategy has attempted to identify some of the emerging actions likely to feature in business plans over the years ahead. Some of these actions are identified as priority but this may change to reflect changing budgetary conditions or a change in ITS policy. Some of these actions will be reflected in the Department's Digital Strategy - the Department's umbrella IT Strategy.

Delivery of the ITS Strategy will be reflected in detailed annual Business Plans and Risk Registers - templates for a typical TICC Business Plan and Risk Register are shown in Annex A and Annex B. Business Plans will be supported by business cases where required which will detail the anticipated benefits, performance improvements and outcomes.

In addition to the regular annual funding TICC and the Divisions receive there will be opportunities to avail of additional funding for ITS such as:

- Strategic Route Improvement funding for ITS on strategic routes,
- Invest to Save funding that can demonstrate resource savings by investing in infrastructure/system upgrades e.g. LED upgrades, and
- European funding, in particular the 'Connecting Europe Facility' through the Arc Atlantique corridors which can recoup 10 - 20% costs.

DfI Divisions are responsible for the design and implementation of traffic signals and other ITS facilities within their geographic areas of responsibility. If required, assistance and advice is sought from TICC. For major ITS projects, however, Divisions usually seek the involvement of TICC. The implementation of traffic control systems such as Managed Routes and Urban Traffic Control (UTC) is normally carried out by TICC.



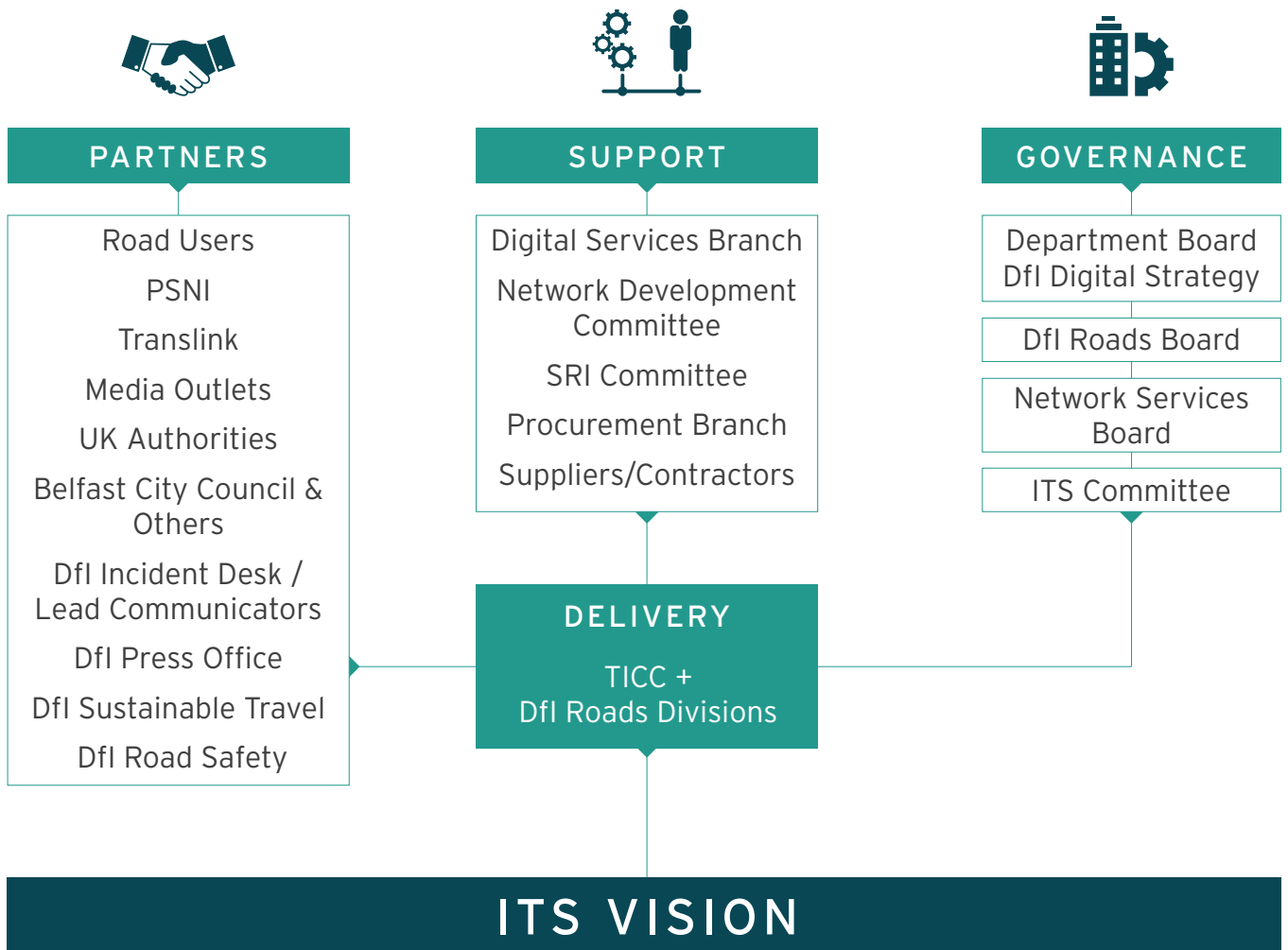
HOW WE WILL MONITOR ACHIEVEMENT OF THE ITS STRATEGY

Primary governance of the ITS Strategy will be via the DfI Roads ITS Committee. The Terms of Reference of the ITS Committee can be found in Annex C. The committee typically meets twice yearly although this can be increased as needs arise. One of the main functions of the Committee will be to compile the ITS Strategy and monitor its implementation. Any significant issues that arise at the ITS Committee will be escalated to the Network Services Board and, if appropriate, the DfI Roads Board.

Additionally, some of the main ITS Strategy deliverables will be reflected in the Department's Digital Strategy and progress against these will be reported twice yearly to the Departmental Board.

ITS STRATEGY STAKEHOLDERS

The graphic below shows the various stakeholders who will have a part to play in the achievement of the ITS Vision.



ANNEX A

TYPICAL TICC BUSINESS PLAN

	18/19 (k)	19/20 (k)	Notes
Complete CCTV system IP Migration	£900	£300	Initial Estimate £1,200 - Final Estimate to be refined once transmission contract (Out to tender) and LOT 15 quotes (again out to tender) are returned
STRATOS (Upgrade UTC and RMS)	£200		Invest to save and Business Continuity/ Disaster Recovery opportunity
Pilot Cisco Emergency Telephone System	£50	£550	This is a pilot (already used in Dartford tunnel) potential to reduce overall upgrade from £1.2m to £600K). If additional funds become available then the roll out could be moved to 18/19 on assumption pilot is successful.
LED Upgrades	£150	£150	Invest to save - potential to use this as balancing item or to significantly increase
Signal Upgrades	£175	£200	
New CCTV cameras along BRT Routes	£30		
Capitalised EU AA2 & AA3 fees	£40k	£40	
Motts Control Room Review	£20		
Motts Rd Map Review	£20		
Further rollout of Server to Server Bus Priority	£30k	£30	
	£1,545		

Note

The proposed spending for 2019/2020 above only deals with carry over expenditure.

A higher level road map for capital expenditure is available and deals with:

- replacing NMCS2 motorway control system
- providing IP transmission to all motorway devices
- increasing journey time monitoring (both urban and inter urban)
- CCTV - additional sites
- updating control room & replace video wall
- updating end of life VMS/ANPR
- additional VMS

ANNEX C

ITS COMMITTEE TERMS OF REFERENCE

DfI ROADS ITS COMMITTEE TERMS OF REFERENCE.

1. Intelligent Transport Systems (ITS) is the collective name given to a range of systems and services which enhance the movement of people and goods by optimising effective management of the road infrastructure and the provision of reliable and timely travel information.
2. DfI Roads places a high priority on the application of ITS to assist in achieving its mission and objectives. The focus in DfI Roads for ITS is the Traffic Information and Control Centre.
3. The DfI Roads ITS Committee reports to the Network Services Board, and also maintains liaison/representation with other groupings and committees including, but not limited to:
 - The 5 Nations ITS Network Management Group
 - The 5 Nations Incident Management Group
 - TransportNI Network Development Committee
 - TransportNI Strategic Road Improvement Committee
 - Traffic & Transportation Working Group
 - The Transport Information Systems (TIS) Working Group
4. The functions of the ITS Committee include:
 - Compile and publish the DfI ITS Strategy and associated Policies and Procedures
 - Monitoring progress on the implementation of the Strategy
 - Ensuring a consistent approach across TransportNI on the application of ITS facilities
 - Involvement in EU ITS projects and monitoring the progress of such projects
 - Contribute to the Department's IS Governance Board (ISGB)
 - To approve operational policy issues as required
 - To evaluate staff training needs in ITS and to source specialist courses/workshops as appropriate
5. The membership of the ITS Committee is made up as follows:
 - Director of Network Services (Chair)
 - Eastern Divisional Roads Manager
 - Head of Digital Services Branch
 - Head of Engineering Services
 - Network Development Manager, West
 - Network Telematics Manager
 - Network Traffic & Street Lighting Manager, East
 - Network Telematics SPTO (Secretary).



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FURTHER INFORMATION

For further information contact:

Roy Gordon
Head of Intelligent Transport Systems (ITS)
Department for Infrastructure
Traffic Information and Control Centre
1b Airport Road, Belfast, BT3 9DY

Email: ticc.belfast@infrastructure-ni.gov.uk
