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Surrey Transport Plan: Congestion Strategy

July 2014

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In writing
Surrey County Council
Strategy Group (Room 420)
Environment & Infrastructure Directorate
County Hall
Kingston upon Thames
Surrey KT1 2DN

By phone
03456 009 009
Minicom: 020 8541 9698

Online
Email: surreytransportplan@surreycc.gov.uk
www.surreycc.gov.uk/surreytransportplan

Surrey Transport Plan, 2011-2026

Congestion Strategy

July 2014

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Executive Summary

This is the Congestion Strategy, one of the strategies of the Surrey Transport Plan.

Whilst Surrey's highway network is extremely busy, it does not suffer congestion to the degree that some metropolitan conurbations do. However, due to this busy nature, congestion does occur during the peak periods and at local hotspots, and rapidly arises when either incidents occur or traffic flow is disrupted. At the same time, travel demand is increasing as a result of additional development, both within and outside the county's boundaries. In addition, Surrey has a duty to meet the requirements of the Traffic Management Act (2004) and the Civil Contingencies Act (2004).

The focus of the strategy is on journey time reliability, which is seen as important for all users. Crucially, it is recognised that improving reliability can have greater economic benefit than minor improvements in average journey times. The ability of the system to recover from major disruptions is also seen as important.

The objectives of the Congestion Strategy are to:

1. Improve the reliability of journeys;
2. Reduce delays for all transport modes on key routes and at congestion hotspots;
3. Improve the provision of journey planning information for travel in Surrey.

Surrey's target is to ensure congestion - both delay and journey time reliability - does not deteriorate beyond current levels.

Given that providing additional capacity is no longer considered to be the best solution except in certain locations and for particular circumstances, a mix of solutions is required involving a wide range of tools. This mix of solutions includes demand management, integrated land use & transport planning, network management, traffic management, freight & goods management and behavioural change.

The main areas the strategy will focus on are:

- improving the day-to-day proactive management of the network, crucially working in partnership with other organisations, such as the Highways Agency, on both day-today operations as well as incident management and winter maintenance;
- improving the way road maintenance and other road works are integrated and managed;
- developing Surrey's travel website to keep people informed and to encourage travel planning;
- improving the enforcement of regulations to keep the network efficient and enabling resulting revenues to be re-invested into the network;
- identifying and implementing developer funded schemes that will mitigate the impacts of additional demand;
- making the most of opportunities arising that will assist in meeting the strategy objectives, including working with local groups and objecting to development proposals that do not mitigate potential impacts satisfactorily.

Key activities enabling delivery of this strategy include:

- the use of Surrey's Network Management and Information Centre;
- the development of Surrey's website to give up-to-date travel information, which can be reached at http://www.surreycc.gov.uk/travel

- the role of Surrey's Traffic Manager.

Long-term success is dependent upon good land-use and transport planning, itself related to working closely and building upon existing partnership relationships with the planning authorities and other organisations. These include, for example, hospitals, major employers and other large trip generators, and developers.

A Congestion Programme has also been developed by Surrey County Council, which provides a programme of specific schemes, lays out an integrated approach to managing congestion: a mixture of network and demand management; promoting alternatives to car travel; and new infrastructure.

Introduction: this Congestion Strategy and the Surrey Transport Plan

1.1 This Congestion Strategy document

This is the Congestion Strategy, one of the strategies of the Surrey Transport Plan.

A public consultation on the draft strategy was held between September and November 2010. The results of this consultation have helped to inform the strategy.

A formal consultation report, to be produced in 2011, will give details of who was consulted, the consultation feedback received and how it was reflected in any changes to this final strategy.

1.2 The Surrey Transport Plan

The Surrey Transport Plan is the county's third Local Transport Plan (LTP3). The new plan covers the period from April 2011 and looks ahead to 2026.

The Surrey Transport Plan replaces the Surrey Local Transport Plan second edition: 2006/07 – 2010/11 (March 2006), known as LTP2.

Documents are available giving an introduction to the Surrey Transport Plan and its overarching vision and objectives and an explanation of key abbreviations and acronyms used in the Surrey Transport Plan.

Background and terms of reference

The Congestion Strategy has been developed within the context of the overarching vision and objectives of the Surrey Transport Plan. With regard to this, the main focus for the Congestion Strategy is to put in place the tools and processes to enable Surrey County Council and its partners to manage the road network effectively and reliably.

It should be noted that the strategy focuses on roads for which the county council is the Highway Authority, but does include liaison and partnership working with the Highways Agency to address congestion related to the motorways and trunk roads that pass through Surrey.

1.3 Links with other county, regional and national policies

The problem of traffic congestion is recognised by both organisations and individuals alike. The geo-economic location of Surrey (e.g. proximity to London and its settlement pattern with a number of towns rather than a single dominant centre) and its socio-economic profile (e.g. giving rise to high car ownership), together mean that there is a need to address congestion within the county.

The Surrey Strategic Partnership Plan 2010-2020 sets out five key challenges facing the partnership: climate change, sustainability, internet connectivity to promote economic vitality, reduced spending and the desire for more involvement in local decision-making. This strategy has an important role in delivering against strategic priorities related to economic development (Priority E), sustainable developments (Priority H) and, in particular, sustainable lifestyles (Priority G). The latter is explained as: "The ability to travel around the county in a quick and efficient manner is essential to economic success and convenient transport depends on uncongested roads and good public transport services. We will invest in transport infrastructure, and encourage more sustainable modes of travel and the reduction of unnecessary travel, which will reduce congestion while bringing economic, environmental and health benefits."

Nationally, the issue of congestion is recognised. One of the five goals of national transport policy as set out in Delivering a Sustainable Transport System (DaSTS) (DfT, November 2008) is to support national economic competitiveness and growth by delivering reliable and efficient transport networks.[1] Congestion and unreliability constrain economic growth, and in this regard the Eddington report[2] recommended the focus should be on:

- improving the performance of the existing network;
- targeting additional capacity where required to meet demand;
- co-ordinating plans to manage demand.[3]

Journey time reliability is seen as important for all users, but, crucially, it is recognised that improving reliability can have greater economic benefit than minor improvements in average journey times.[4] The difficulty for many individuals and commercial organisations is that the time it takes to travel a route from one day to the next can vary enormously, especially at congested times. It is considered that individuals and

[1] DaSTS (November 2008), section 1.5
[2] The Eddington Transport Study (December 2006)
[3] DaSTS (November 2008), section 1.8
[4] DaSTS (November 2008) section 1.9

organisations gain greater benefit from knowing how a long a journey should take rather than taking slightly less time to complete a journey but not being able to predict for certain how long the journey will take. Research indicates that, at present, drivers allow on average 20 minutes extra to cater for variations in traffic conditions during the rush hours,[5] and being able to provide reliable journey times could mean that these 20 minutes would be able to be saved. This is more useful than reducing everybody's journey times by several minutes but still needing to allow for unpredictable flows. Thus, for example, it is considered that it is better to know that a journey is likely to take 42 minutes plus or minus a couple of minutes rather than 35 minutes but having to allow plus or minus 20 minutes.

In addition, as well as ensuring all the necessary transport network connections are in place, the ability of the system to recover from major disruptions is also seen as important.[6]

In January 2011, the Coalition Government published its Local Transport White Paper entitled 'Creating Growth, Cutting Carbon – Making Sustainable Local Transport Happen' (DfT, January 2011). The Government recognises in the White Paper that the car is the mode of choice for all but the shortest of trips, mainly because of its freedom and flexibility. At the same time, car use is responsible for over 50% of transport carbon emissions, and traffic congestion is a drag on the local economy. The White Paper proposes 'Managing traffic to reduce carbon emissions and tackle congestion' which is the title of chapter 7. In the longer term, it is considered that road transport could be almost completely decarbonised. And at present: "There are measures available now to manage traffic in ways which tackle congestion as well as reduce carbon emissions and bring road safety and air quality benefits."

The Congestion Strategy sets out the overall approach to tackling congestion in Surrey. A Congestion Programme has also been developed by Surrey County Council, which provides a programme of specific schemes, lays out an integrated approach to managing congestion: a mixture of network and demand management; promoting alternatives to car travel; and new infrastructure. It provides a strategic programme for managing traffic congestion on Surrey's Road network in support of economic competitiveness and growth.

1.4 Statutory duties

There are two legislative Acts that relate to congestion and the management of the highway network. The first is the Traffic Management Act (2004), the aim of which is to improve the conditions for all road users by the proactive management of the road network. There are five key elements to the Act, which are:

i) the management of motorway incidents;
ii) the management of the local road network;
iii) control of streetworks;
iv) civil enforcement of driving and parking offences;
v) the designation of strategic roads in London.

The second is the Civil Contingencies Act (2004), which sets out the arrangements, roles and responsibilities required to fulfil civil protection duties in the event of an

[5] Highways Agency, Road User Research (March 2010)
[6] DaSTS (November 2008) section 1.10

emergency. Under the Act, Local Authorities are identified as core responders and as such have a duty to prepare arrangements and procedures to adopt in the event of an emergency. In terms of transport, this includes emergencies directly affecting the transport network as well as helping the movement of vehicles and the provision of information about the transport network in relation to other types of emergency.

Consequently, tackling congestion is a high priority.

Problems and challenges

Surrey's highway network is extremely busy, but does not suffer congestion to the degree that some metropolitan conurbations do. However, due to this busy nature, congestion does occur during the peak periods and at local hotspots, and rapidly arises when either incidents occur or traffic flow is disrupted.

The result of work undertaken to help understand congestion to inform this strategy is indicated to the right in Figure 3-1. This is based on calculating the cost of congestion to help understand where congestion occurs and what might be able to be done to either address it or mitigate the cause of it. For Surrey as a whole, including the motorways and trunk roads, the cost of congestion is estimated to amount to about £550 million per annum.[7]

This evidence will also be used to inform both the monitoring that will be undertaken and what targets will be used to keep the implementation of the strategy on-track.

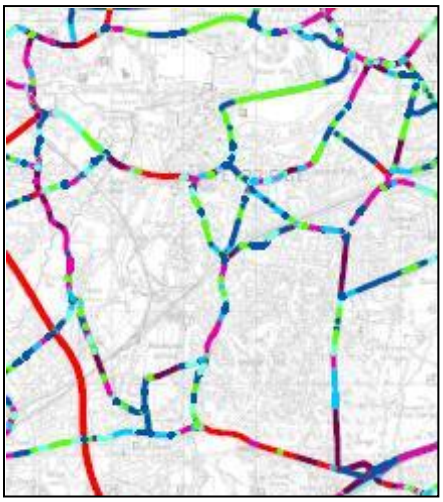

Figure 3-1: Excerpt from a GIS analysis on the cost of congestion in Surrey

In addition, a recent survey amongst Surrey drivers identified that the pressure of demand on the network did lead to journey time variability, yet at the same time these users valued the information that was supplied, particularly over the internet.[8]

Surrey is also facing pressure from the need for additional development, both within and outside its boundaries. The bulk of Surrey's housing allocations will be located in relation to the county's three hubs of Guildford, Woking and Reigate/Redhill. It is important that new development enjoys good access to local facilities and services, including employment, has a reduced need to use motorised transport, and allows good access to national rail and road networks to facilitate longer distance travel.

Outside Surrey, developments that might impact upon Surrey in terms of travel and transport include those proposed at East Grinstead and Horsham in West Sussex, Bordon and Aldershot in Hampshire, as well as plans related to both Gatwick and Heathrow airports.

[7] Calculated by Surrey County Council's Transport Studies team, based on 2007-08 data.
[8] Road User Research report, Highways Agency, March 2010

Aims, objectives, indicators and targets

The aim and objectives for the Congestion Strategy are as follows:

Aim: To improve the reliability of journeys, reduce delays at congestion hotspots and improve the provision of journey planning information for travel in Surrey.

Objectives:

1. Improve the reliability of journeys in terms of how they take;
2. Reduce delays for all modes of transport (car, bus and community transport, freight, pedestrians, cyclists) on key routes within Surrey and at congestion hotspots on Surrey's roads;
3. Improve the provision of information to allow people to plan their journeys.

The county council monitors traffic levels across the county on an annual basis. In addition, the council also calculates the amount of delay experienced by drivers in the morning rush hour using key routes into the county's three hubs, as defined in the LAA[9] national indicator NI 167 "average journey time per mile during the morning peak" (variant 2). This is calculated as an average across the monitored routes and measures the difference in time taken by traffic to travel the route during the rush hour compared with uncongested conditions. The current data for 2008-09 is that it takes each vehicle an extra 3 minutes and 22 seconds per mile to travel one of the monitored routes during the morning rush hour compared with off-peak conditions.

The Department for Transport measures NI 167 (variant 3) on Surrey's behalf. This looks at the change in congestion on the main inter-urban routes in the county.

The above indicators measure delay. But, as explained in section 1.3 earlier, journey time reliability is considered to be more important. This is the variation in the time it takes to travel a set route at different times of the day and from one day to the next. It is anticipated that over the next year, journey time reliability will be able to be measured along key routes in the county, and this will be used to provide baseline data with which to compare future year reliability.

The indicators and targets are summarised overleaf.

In all cases, Surrey's target is to ensure congestion - both delay and journey time reliability - does not deteriorate beyond current levels.

[9] Local Area Agreement

Indicator name	Topic Strategy promoter	Description	Target & Baseline	Rationale
CON1 – Peak period vehicle journey time delay	Congestion	NI 167 'Average journey time per mile during the morning peak'. This is calculated as an average across the monitored routes and measures the difference in time by traffic to travel the route during the rush hour compared with uncongested conditions. - Variant 2 Major inbound routes to Guildford, Redhill/Reigate and Woking - Variant 3 Main inter-urban routes	No increase in average journey time as a result of congestion on key routes from 2008/09 levels Variant 2 – 2008/09 data is that it takes each vehicle an extra 3 minutes and 22 seconds per mile to travel one of the monitored routes compared with off-peak conditions Variant 3 – Baseline provided by the Department for Transport	Specific – Clear target set Measurable – Through NI 167 methodologies for the two variants Achievable – Target is considered to be achievable Relevant – Relates directly to objective 2 Time-based – Data is collected annually
CON2 – Journey time reliability	Congestion	The indicator will monitor variation in journey times in to Surrey's major urban areas, ascertained using data supplied by the Department for Transport. Exact methodology to be determined.	No deterioration from 2010 levels, measured as change in journey time variation across all monitored routes.	To follow

Options to resolve problems

In the recent past, a common solution to alleviate congestion was to build additional capacity. This is no longer considered to be the panacea for addressing such problems, particularly in the case of roads, for a number of reasons, including:

- environmental and sustainability issues, including such things as land-take and the impact on the natural environment, encouraging traffic growth, etc;
- the cost of such improvements, particularly in an era of constrained budgets;
- such solutions can mean the problems are displaced elsewhere on the network.

On the other hand, in the case of rail, it is still considered that additional rail capacity to alleviate bottlenecks and provide new services can help to address congestion and improve accessibility.

In Surrey's second Local Transport Plan (LTP2), a number of potential road schemes were identified to help address congestion, including the Kiln Lane Link in Epsom, A24 Horsham to Capel improvements, A31 Hickley's Corner at Farnham and the A325 Wreccelsham Relief Road also in the vicinity of Farnham. Despite some of these being related indirectly to developments outside Surrey, especially in West Sussex and at Bordon in Hampshire, it is unlikely that any of these schemes can be progressed in their current form, especially given the prevailing economic and financial climate.

However, adding additional road capacity is still an important option to consider either in relation to specific locations or where there are gaps in the network. But adding capacity is not the only way of addressing congestion and, as indicated above, can in itself exacerbate the problem by encouraging additional traffic.

Consequently a mix of solutions are required involving a wide range of tools. This mix of solutions includes:

- demand management;
- integrated land use & transport planning;
- network management;
- traffic management;
- freight and goods management;
- behavioural change.

The processes and tools available to implement these solutions are shown overleaf.

Measures and interventions related to the **Congestion** Strategy	**Contribution to Objectives**				**Strategy which is the main promoter of the measure**
	Eff	**Rel**	**Saf**	**Sus**	
Infrastructure Measures					
Removal/installation of traffic signals	✓	✓	✓	✓	Congestion
"Unsuitable for HGVs" signage	✓	✓	✓		Freight
Management of Infrastructure					
Coordination of roadworks	✓	✓			Congestion
Joined-up day to day operational management of network	✓	✓			Congestion
Parking/loading restrictions	✓	✓	✓		Parking
Integrated incident management	✓	✓	✓		Congestion
Intelligent Transport Systems (ITS)	✓	✓	✓		Congestion
Urban Traffic Management and Control (UTMC)	✓	✓		✓	Congestion
Developing a preferred lorry route network for satnav applications, including information on driver rest facilities	✓	✓	✓	✓	Freight
Positive lorry route signing	✓	✓			Freight
Collaborative working with the freight industry and other authorities	✓	✓	✓	✓	Freight
Freight delivery and servicing planning	✓	✓		✓	Freight
Construction Logistics Planning		✓	✓	✓	Freight
Integrated Demand Management	✓	✓	✓	✓	Congestion
Promotional and Behavioural Measures					
Encourage internet use to facilitate access to services	✓			✓	Travel Planning
Home working		✓		✓	Travel Planning
Car share database	✓			✓	Travel Planning
Information Provision					
Realtime information on SurreyTravel website	✓	✓			Congestion
Advance information on winter maintenance	✓	✓	✓		Asset Management
Planning of one-off events	✓	✓			Congestion
Pricing Measures					
Pay and Display	✓			✓	Parking
'Pay by Phone'	✓			✓	Parking
Visitors' parking permits	✓			✓	Parking
Resident parking permit scheme	✓			✓	Parking
Differential parking charges	✓			✓	Parking
Road works permit scheme		✓		✓	Asset Management
Other Measures (including Land Use Measures)					
Working with partners to consider congestion issues:					
• in Local Development Framework process to plan location and type of development and local infrastructure improvements and controls,	✓	✓	✓	✓	Congestion
• in identification of appropriate developer-funded mitigation schemes,	✓	✓	✓	✓	Congestion
• in providing guidance on parking provision	✓			✓	Congestion
Action plans to address congestion hotspots	✓	✓			Congestion

Appraisal of options

These potential solutions have been assessed using a simple appraisal framework considering the interventions against the following critieria:

- policy compatibility, by assessing the contribution interventions will make to meeting policy objectives, including impacts in relation to climate change and air quality;
- cost of implementation and and requirement for future maintenance/operation, and potential funding opportunities;
- deliverability and risk, considering the likelihood of being able to implement interventions successfully.

This analysis has helped to inform the preferred strategy.

Preferred strategy

The main areas the strategy will focus on are:

- improving the day-to-day proactive management of the network, crucially working in partnership with other organisations, such as the Highways Agency, on both day-to-day operations as well as incident management and winter maintenance;
- improving the way road maintenance and other road works are integrated and managed;
- developing Surrey's travel website to keep people informed and to encourage travel planning;
- improving the enforcement of regulations to keep the network efficient and to enable resulting revenues to be re-invested into the network;
- identifying and implementing developer funded schemes that will mitigate the impacts of additional demand;
- making the most of opportunities arising that will assist in meeting the strategy objectives.

1.5 Improving day-to-day proactive management of the network

Working in close collaboration with partners, including the Highways Agency, the county council will seek to make the best use of the existing network through modern technology and good management and control techniques. The aim is to proactively:

- monitor how the network is performing;
- manage and address issues both by predicting network conditions and as and when problems arise, and;
- provide accurate and timely information.

Such an approach will make use of modern technology to implement traffic management strategies remotely, such as changing the way traffic lights work, and provide information to network users. It will enable effective working between teams within Surrey County Council with the objective of continually striving for a better service at reduced cost. Examples of this include the way incidents on the highway are reported, processed, actioned and the public informed, and the way winter maintenance is planned, delivered and, again, information provided to partner organisations and the public.

This approach will also use up-to-date processes to assist partners to manage the network as a single seamless network as perceived by the user. The Motorway and Trunk Road network is managed by the Highways Agency, but the relevant local highway authority, such as Surrey County Council, manages other roads. If there is an incident on the motorway often drivers do not know about such a problem until they are on the motorway when it is too late to take another route. Working together will mean that the county council and partners can help to inform drivers before they reach the motorway network and help to reduce congestion on the local road network arising from drivers taking alternative, and sometimes inappropriate, non-motorway routes.

It will mean that additional control measures might have to be implemented to allow plans to be implemented to cater for different traffic conditions. For example, instead of a major new grade separated junction at Hickley's Corner in Farnham, the introduction of an Urban Traffic Control system at this junction might allow the junction to be connected to the opening and closing of the adjacent level crossing, thereby bringing benefits to traffic and pedestrian flows and helping to address air quality problems.

This will entail a change to the way Surrey and other authorities (such as the Highways Agency and neighbouring local authorities) currently operate. In Surrey, it is expected that network management control room staff will actively collaborate with Highways Agency staff to ensure traffic flows as smoothly as possible across the complete network. This approach has the potential to deliver high value for money benefits.

1.6 Integrating roadworks

Although Surrey County Council already meets its statutory obligations in this field, this part of the congestion strategy aims to manage the congestion caused by roadworks as a result of maintenance and improvement works to the roads themselves, and activities by utility companies (e.g. the electricity, gas and water companies.)

This will be done by a number of activities, including:

- being more proactive planning major works and working closely with partners on such projects;
- through such working influence the length of time roadworks take;
- increasing the use of technology and processes to assist in the planning and coordination of roadworks;
- being more responsive to problems arising from such works (e.g. quickly mending faulty temporary traffic lights);
- making better use of intelligence and disseminating accurate and timely information.

These activities will be delivered through better processes and use of intelligence, rather than increasing resources.

1.7 The provision of accurate and timely information

This will be provided via the county council's travel website showing up-to-date, accurate and timely information to assist travel planning helping people when and how to travel, whether this be a daily commuting trip or a one-off trip to an event. It will also facilitate the use of SMS messages.

The website can reached at: http://www.surreycc.gov.uk/travel

At the same time, improved accurate and timely information will be provided to people already on-route to their destinations via the use of roadside messages and information disseminated to radio stations and via the Traffic Message Channel (TMC) to interactive satellite navigation systems.

1.8 Increased enforcement

This element of the strategy aims to manage traffic more effectively. This might mean using CCTV to identify incidents of poor and inconsiderate driving at key locations that can cause considerable congestion, such as illegal parking, and issuing fines to reinforce appropriate driver behaviour.

It is linked closely with the Parking Strategy. The extent to which enforcement will be able to address congestion will depend upon the successful implementation of the Parking Strategy.

Revenues raised from such activities will be re-invested in Surrey's transport network.

1.9 Transport improvement schemes

Working with the planning authorities and developers, this part of the strategy aims to identify improvement schemes that will help mitigate the effects of new residential and commercial developments on the transport network. Given the nature of much development, such schemes are likely to be relatively small-scale (e.g. alteration to existing junctions) designed to help the network accommodate increased movement demand arising from developments. As such, they are unlikely to contribute much to addressing existing problems and congestion levels.

1.10 Opportunities

This part of the strategy aims to make the most of opportunities that will assist in meeting the strategy's objectives.

This includes working with local groups and encouraging such groups and individuals alike to contribute by identifying potential solutions to local congestion related problems. But it is also recognised that individuals themselves are part of the solution by taking personal responsibility for considering when and how to travel. Although the need to travel is not always flexible, such as journeys to school and work, this strategy seeks to provide more assistance to individuals in making informed travel choices where there is flexibility to do this.

In addition, this strategy includes responding positively to those developments that are planned in a sustainable way and integrated into the current geography of Surrey, and that provide the mitigation to address impacts arising from movement related to these developments. Major infrastructure improvements will be supported that could take traffic off our roads or relieve congestion.

In relation to the above two activities, it also includes working with local groups, partners and developers to encourage the use of non-car modes for short distance trips.

At the same time Surrey will respond appropriately, taking into account policies and planning considerations, to development proposals that could detrimentally affect congestion without careful transport and land-use planning and relevant mitigation. This includes objecting to development proposals both inside and outside the county where insufficient measures are proposed to mitigate the impacts in Surrey of such developments.

Delivery of the preferred strategy

One of the major planks required to deliver this strategy is the Network Management and Information Centre (NMIC) in Leatherhead. This unit has facilitated good partnership working and established excellent processes to manage the network on a day-to-day basis and plan for forthcoming events, whether these be local road works or national shows.

The facilities available via Surrey's control room can also be used for enforcement purposes, to discourage poor and inconsiderate driver behaviour at locations that can quickly give rise to congestion.

The county council already has a website giving up-to-date travel information, which can be reached at http://www.surreycc.gov.uk/travel. But the success of delivering this Congestion Strategy will also depend upon building upon this platform to ensure more information is provided, which is both accurate and timely, to allow travellers to plan their journeys better.

The role of Surrey's Traffic Manager is also key to delivering this strategy. As part of this role, liaising with the Surrey County Council team responsible for winter maintenance is important in meeting the strategy's objectives, as is liaising with partners such as the Highways Agency and Surrey Police.

Long-term success is dependent upon good land-use and transport planning, itself related to working closely and building upon existing partnership relationships with the planning authorities and other organisations. These include, for example, hospitals, major employers and other large trip generators, as well as developers.