RoSPA
The Royal Society for the Prevention of Accidents

Working for a safer Scotland

Using Telematics to Improve Driving for Work Safety: A Good Practice Guide

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SUMMARY OF GOOD PRACTICE

SET AIMS AND OBJECTIVES

Set clear aims and objectives for using telematics within your organisation. It will help everyone to understand the purpose of using telematics, inform the type of telematics, and the supplier, that will best suit your needs, and enable you to evaluate whether you achieve what you want to achieve.

INVESTIGATE OPTIONS

Telematics technology has developed quickly in recent years and is continuing to develop. Therefore, take time to research the suppliers and their products, to ensure that you invest in the options that are most likely to meet your needs.

Important questions to ask potential suppliers include:

- How will they collect the driving data?
- What data are they measuring?
- How will they present the data to the drivers and the managers?
- What training will they provide to the drivers and managers?
- How will they install the technology in vehicles?
- How will they remove the telematics from vehicles?
- How will they cope with shared vehicles that are driven by more than one person?

CONSULT WIDELY

Consult staff and their representatives, such as trade unions or staff associations, very early in the planning process.

It is well worth taking time at this stage to reach consensus within the company. Explain the benefits of using telematics to the company and to the drivers themselves.

Consult your company's insurer and lease vehicle provider; they may be able to provide advice and/or recommend particular suppliers. You may need the agreement of your lease vehicle provider to install telematics in the vehicles.

PLAN CAREFULLY

Work closely with your drivers and telematics provider to plan the implementation of the telematics technology. This will include:

- Ensuring all staff and managers are aware of your organisation's policy on the use of telematics and the data it generates
- Installing the technology
- How you will identify drivers in multi-drive vehicles
- How you will use telematics for grey fleet drivers and vehicles, if applicable
- Providing feedback to drivers and managers
- Encouraging drivers and managers to use the feedback
- Incorporating the driving data into your accident investigation process

EDUCATE DRIVERS AND MANAGERS

Your drivers and managers need to clearly understand why and how you will be using telematics, but also the mechanics of doing so, such as what the telematics records and how they can access the feedback about their driving. This is a good opportunity to refresh memories about your aims and objectives. It is also a good opportunity to reassure concerns about privacy or punitive approaches, and to reinforce the benefits to the company and to individual drivers.

ENCOURAGE DRIVERS TO REGULARLY VIEW THEIR FEEDBACK

Much of the improvement in driving that telematics can produce occurs when drivers regularly view and understand the feedback about their driving. Each driver should have access to their personalised driving feedback, for example, through a password protected web portal, direct by email or though an app. The feedback needs to be easy to understand and provide useful, relevant information about the driving and how it can be improved.

However, providing access on its own will not be sufficient to ensure that they regularly view their driving data. To encourage drivers to regularly view and consider their feedback, set expectations for how often they are expected to do so, and monitor how often they actually do. Some form of incentive programme may be needed to encourage greater use of the driving feedback.

Consult your drivers to identify whether they find the feedback easy to access and understand, and whether they find it useful.

If your company has multi-driver vehicles, work with your telematics provider to ensure that the telematics allocates the driving data and driving scores to the driver who was driving at the time the data was recorded.

USE THE TELEMATICS DATA PROACTIVELY

Consider what sort of information is important for your managers; they will probably want to be able to view the results for a group of drivers as well as for individuals.

To get the best use from your organisation's investment in telematics, it is essential that your managers regularly view the feedback for their drivers, and proactively used it to inform safety improvements.

Set up processes for your managers to monitor the data and feedback, and set clear, roles and responsibilities for line managers and senior managers. It is important to check that the managers actually understand what the data means; your telematics provider should provide training to explain how the feedback can be viewed and what it means. Include manager reports about the driving data in management meetings, staff briefings and appraisals.

Consult managers to identify whether they find the feedback and data easy to access and understand, and whether they find it useful.

An important use of telematics data is to help investigate accidents or incidents. Telematics provides objective data about what the vehicle was doing prior to and at the point of an accident (or other event, such as speeding or harsh braking).

EVALUATE AND REVIEW

As with any health and safety system, your use of telematics should be evaluated and reviewed, to check that it is achieving your aims and objectives, identify any problems that need to be resolved and any improvements that could be made.

INTRODUCTION

Many employers are using telematics to monitor the at-work driving of their staff. This technology can significantly reduce crash rates, levels of risky driving behaviours, and fuel and accident costs.[1] It has the potential to help employers to:

- analyse the real driving behaviour and standards of staff who drive for work
- provide tailored, personalised feedback to drivers to help them improve their driving or reduce their exposure to high risk driving situations
- identify driver training and education needs of at-work drivers
- incentivise lower risk driving
- significantly reduce the company's costs.

In 2012, the Scottish Government provided funding to RoSPA Scotland to conduct a pilot project to evaluate the practicalities and effectiveness of employers using telematics to monitor and improve the at-work driving of their young staff. It was the first research of its kind in Scotland and aimed to inform work in Scotland with companies who employ young drivers, and support the implementation of Scotland's Road Safety Framework to 2020.

The telematics technology used for the project was contained in a small device (a 'black box') installed in the cars or small vans of participating employers that are driven for work by young drivers. It generated a Safe Drive score for each driver, which showed how closely their driving matched that of a RoSPA Advanced Driver (i.e. a driver who has a Gold grade pass in RoSPA's Advanced Driving Test).

The project aimed to identify how employers in Scotland can make use of this technology to help keep their staff (and other road users) safer when they are driving for work. It explored the practical issues that employers face when seeking to use telematics, how they were or were not resolved, and how they were able to use the information the technology provided to improve their management of occupational road risk.

A report of the project was published in May 2014, and is available at Scottish Road Safety and RoSPA websites.

This Good Practice Guide is based on the findings and recommendations of that report.

[1] "Road Safety and In-vehicle Monitoring (Black Box) Technology", RoSPA, 2012, http://www.rospa.com/roadsafety/info/black-box-technology.pdf

SET AIMS AND OBJECTIVES

Setting clear aims and objectives for using telematics within your organisation is an essential first step. It will help everyone in the organisation to understand the purpose of using telematics, inform the type of telematics, and the supplier, that will best suit your needs, and enable you to evaluate whether you achieve what you want to achieve.

Setting clear aims and objectives will enable you to make, and demonstrate, evidence-based business decisions. It will also enable you to evaluate the effectiveness of your investment in this technology.

Overall, your main aim is likely to include reducing driving for work accidents, injuries and costs. However, you may also wish to set other aims and objectives, which could include any of the following:

- analysing the real driving behaviour of staff who drive for work
- identifying higher risk drivers, vehicles and routes
- incentivising safer driving
- providing tailored, personalised feedback to drivers to help them improve their driving
- optimising routes and schedule
- reducing exposure to high risk driving situations
- identifying driver training and education needs of at-work drivers
- reducing vehicle and driving costs
- improving accident investigation
- improving the organisation's safety record
- improving the organisation's management of occupational road risk (MORR).

Aims
Aims are the outcomes that you expect to achieve by using telematics; in other words, who and what will be changed. You may decide to have more than one aim.

Example Aims

- To improve the driving behaviour of drivers who drive for our company
- To reduce the road accident/incident rate of our company
- To reduce fuel and other driving costs

Objectives
Objectives are the very specific ways in which you expect to achieve you aim(s). They are more specific than aims and describe what you expect to change, by how much and by when. Objectives should be 'SMART':

Specific the objective(s) should clearly identify who will be affected by what is done, and how

Measurable use the telematics data, and other data, such as crash rates and fuel costs, to measure the achievement of the objective(s)

Agreed the objective(s) should be agreed by all the relevant parties involved

Realistic the objective(s) should be realistic, given the available resources

Time-bound there should be a specific timeframe within which the objective(s) will be achieved

Example Objectives

- To reduce incidences of speeding [or any driving behavior you wish to target] by 15% by [set a specific date, say one year ahead]
- To identify the highest risk drivers and provide driver education or training or other methods of reducing their driving risk
- To reduce our rate of driving for work accidents or incidents by 15% by [set date]

If you have decided to use telematics in a particular group of your organisation's drivers and vehicles, rather than in all of them, the aims and objectives should only relate to that group.

Baseline Data
In order to measure changes (for example, in driving behaviours, accidents or costs) you need some baseline data against which to compare your new data to see what has changed and by how much. For example, if you know your company's accident rate before you introduced the telematics, you can then compare the accident rate a year after its introduction to see how it has changed.

It is more difficult to obtain baseline data of specific driving behaviours, such as speeding or harsh braking. However, you can use data collected in the first few months, or for a specific mileage (say, the first 250 miles) after the telematics has been introduced as a baseline measurement. Usually during the period when the baseline data is being collected, the driver is not given any feedback,[2] so that their driving is as normal as possible.

More advice and information about setting aims and objectives is available at www.roadsafetyevaluation.com.

[2] Unless there is a particularly dangerous incident, in which case it should be addressed with the driver

INVESTIGATE OPTIONS

Although telematics have been around for a number of years, the technology has developed quickly in recent years and is continuing to develop. Therefore, take time to research the suppliers and their products, to ensure that you invest in the options that are most likely to meet your needs.

ScORSA, www.scorsa.org.uk, and online search engines, are good ways of keeping up to date, and finding potential suppliers. Your organisation's insurers and lease vehicle provider may be able to provide advice, and/or suggest suppliers.

Your aims and objectives will help you to clarify the type of telematics that best suit your needs. For example, you will need to decide whether you want a journey data recorder (JDR) or an event data recorder (EDR).

JDRs monitor and record the way a vehicle is being driven throughout the whole journey, and so can give a comprehensive picture of a person's driving. EDRs monitor the way a vehicle is being driven but only record the data for several seconds before, during and after an event (for example, a collision, sharp braking, etc). They are very useful for accident and incident investigation, but do not necessarily give the whole picture of a person's driving.

Important questions to ask potential suppliers include:

How will they collect the driving data?
A small device (black box) retro-fitted to the vehicle, usually by a professional installer, provides reliable and accurate data and is difficult to interfere with. However, it is more expensive and time-consuming as it requires a professional installation.

A 'dongle' that connects to the vehicle's engine diagnostic port provides accurate and reliable data. It is easier and less expensive to install, but perhaps easier to remove for some journeys.

A smartphone app is probably the least expensive method as it does not require any installation. However, the drivers need to have a phone or other device for the app, which they take with them and switch on for every journey. This may be a better option for multi-driver shared vehicles (see page 12 for further details) provided each driver has his/her own device.

These methods can be mixed. For example, a black-box could be used to collect the driving data, and an app used to provide feedback to the driver.

What data are they measuring?
Typically, the types of driving behaviour that tend to be measured include:

- Vehicle speed and acceleration
- Vehicle location
- Braking and cornering

Ask how often the data is collected – every second or more frequent gives an accurate and reliable picture of continuous driving – and how well the driving is mapped onto the road location, so that the driving can be put into context.

Another important question is what reference is used to measure good or bad driving and provide the driver's score or risk rating.

How will they present the data to the drivers and the managers?
A crucial feature of any telematics service is the data and feedback that is provided to the drivers, and to their managers. Typically, feedback is presented via a web portal, email or an app, or a combination of these. Consider the best way for your drivers to access the feedback, and whether they need an email address, especially if they do not tend to use PCs or laptops.

Access to the feedback needs to be secure (so that only the driver, and relevant managers, can access the data) and reliable (if drivers and managers struggle to get access due to technical faults, they will soon stop trying).

You may wish to tailor the design of the feedback to include your company's name and logo, and key company messages.

What training will they provide to the drivers and managers?
Drivers and managers need to understand how they can access their driving data, and what the data, driving scores and feedback actually mean, so some form of training should be expected from the telematics provider.

How will they install the technology in vehicles?
If the telematics is provided through a black box installed in the vehicles, the installation arrangement and costs should be discussed carefully, including what happens if an appointment is missed. See page 11 for further details on installation.

How will they remove the telematics from vehicles?
Agree the arrangements for removing the devices at a later date if it becomes necessary. For example, you may wish to sell or swap some vehicles in the future, or a driver may leave the company. It may be possible to switch the device off, which means they were no longer able to collect data, but leave it in the vehicle.

How will they cope with shared vehicles?
One of the most difficult issues will be how to use telematics for vehicles that are driven by more than one driver, or for drivers who drive more than one vehicle. It is essential that the data from a vehicle can be allocated to the individual person who was driving the vehicle at the time the data was recorded, otherwise it becomes relatively meaningless. If you have multi-driver vehicles, ask potential telematics providers how they will ensure that the driving data can be correctly allocated to the right driver. See page 12 for further details.

CONSULT WIDELY

Consult staff and their representatives, such as trade unions or staff associations, very early in the planning process. It is well worth taking time at this stage to reach consensus within the company.

Your aims and objectives will have helped to clarify the purpose of using telematics, and these should be outlined clearly to staff. However, your staff may have reasonable concerns about the introduction of telematics, and in particular about:

- Being constantly monitored in real-time
- Data security and privacy
- Telematics being used as a punitive measure

Be clear about whether drivers and vehicles will be monitored in real-time. Many types of telematics only download their data at the end of the day, so the vehicle is not being monitored in real-time. However, some systems do provide real-time tracking, which can be very useful in the delivery and logistics industries, for example. If this is the case, staff should be informed, and the reasons explained.

Be prepared for concerns about data privacy and security, and again be ready to explain clearly how individual's data will be protected, and who is allowed access to it, and for what purposes.

There should also be a process for staff to challenge any conclusions drawn from the data about their driving, or to explain the circumstances of any instances of apparent poor driving.

Explain the benefits of using telematics to the company and to the drivers themselves. It can:

- improve their driving and their safety
- reduce their driving costs and the business costs
- protect them from false allegations in the event of an accident or complaint about their driving by providing evidence about how they were actually driving, and proving they were not at fault.
- it can protect the company from false insurance claims following an accident by providing evidence of what actually happened

Consult your company's insurer and lease vehicle provider; they may be able to provide advice and/or recommend particular suppliers. You may need the agreement of your lease vehicle provider to install telematics in the vehicles.

PLAN CAREFULLY

Having set clear aims and objectives, gained agreement internally within your organisation, and chosen your telematics provider, it is important to continue to work closely with your drivers and the telematics provider to implement the use of the telematics technology. This will include:

- Ensuring all staff and managers are aware of your organisation's policy on the use of telematics and the data it generates
- Installing the technology
- How you will identify drivers in multi-driver vehicles
- How you will use telematics for grey fleet drivers and vehicles, if applicable
- Providing feedback to drivers and managers
- Encouraging drivers and managers to use the feedback
- Incorporating the driving data into your accident investigation process

Policy

All your staff, but especially your drivers and their managers, should be aware of the organisation's policy on the use of telematics and the data it generates. They should be clear about how the telematics works, the data it records and the processes involving it, such as any incentives to improve their driving scores, or consequences for poor driving.

Installation

The installation process will depend on how the telematics is provided, in a black box, a dongle, an app or some other method. The process is simple, but does need to be carefully planned and implemented. If you are using telematic devices that need to be installed by a professional installer, you will need a process for agreeing the date, time and location for the installer to have access to the vehicle. The drivers, or another person with access to the vehicles, will need to know the details and be responsible for attending the installation appointments.

Missed appointments will increase costs (they may incur a call-out fee, for example) and delay the introduction of the telematics.

Drivers who take out a telematics-based motor insurance policy have a strong incentive for attending installation appointments, because their insurance will be cancelled if they do not have the telematics installed. At-work drivers, however, do not have the same incentive to have it installed. Therefore, it may be necessary to incentivise drivers to turn up to appointments, either through a reward for attending the installation appointment, and/or a penalty for missing an appointment.

It is also useful to keep the drivers' line managers aware of the appointments, so that they can encourage their drivers to attend their installation appointments, or to re-arrange them rather than miss them.

Shared Vehicles

One of the most difficult issues will be how to use telematics for shared vehicles that are driven by more than one driver, or for drivers who drive more than one vehicle. It is essential that the data from a vehicle can be allocated to the individual person who was driving the vehicle at the time the data was recorded. If the driving data cannot be allocated to the correct driver, it becomes relatively meaningless.

In the Scotland Black Box pilot, only three-quarters of the participating companies who had shared vehicles were able to identify who was driving each vehicle at different times. They either used driver log books or specified which drivers used the vehicle at different times of the day. However, these processes were not sufficient to allow the telematics data on how the vehicles were being driven to be accurately allocated to the right driver. One quarter of the employers with shared vehicles in this trial had no measures in place for identifying which vehicle was being driven by which driver at different times.

Employers who have vehicles that are driven by more than one member of staff, or who have staff who drive more than one vehicle, need some way of identifying who is driving when. This applies whether or not the company is using telematics. In order to manage your occupational road risk properly, you need to know who is driving on your behalf, when and where, and in which vehicle, they are driving.

Therefore, if you have multi-driver vehicles, or multi-vehicle drivers, you should discuss with potential telematics providers how they will ensure that the driving data can be correctly allocated to the right driver.

The most practical method is to incorporate the means of identification into the telematics technology, for example, a key fob that identifies each individual driver. However, this is likely to make the technology more expensive.

Another option is to use a smartphone app to record data, rather than a device fitted in the car, because the app would be related to the individual driver rather than the vehicle. In this case, the company would need to ensure that drivers did not use the Smartphone for other purposes while driving, and that the drivers always carried their Smartphone with them, and did not swap smartphones between themselves.

Grey Fleet

If you wish to install a black box or other device in grey fleet vehicles (ie, vehicles owned by the driver) you will need the permission of the vehicle owner. The owner should check with their insurer, or lease vehicle provider, that they can install such equipment. Using telematics delivered by a smartphone app will circumvent any installation issues with grey fleet drivers, but bear in mind the potential disadvantages of using apps. The phone has to be carried and switched on for every work-related journey, and only when the work driver is driving the vehicle, and the driver must not use the phone for other purposes while driving.

EDUCATE MANAGERS AND DRIVERS

All your staff, especially your drivers and their managers, should be aware of the organisation's policy on the use of telematics and the data it generates. They should be clear about how the telematics works, the data it records and the processes involving it, such as any incentives to improve their driving scores, or consequences for poor driving.

Your drivers and managers need to clearly understand why and how you will be using telematics, but also the mechanics of doing so, such as what the telematics records and how they can access the feedback about their driving.

This is a good opportunity to refresh memories about your aims and objectives, and to reinforce the benefits to the company and to individual driver. For the company, telematics can help them to reduce risks to their staff, meet their legal requirements to manage their occupational road risk, reduce costs, such as fuel, vehicle damage and wear and tear and accident costs – all of which help the organisation's financial stability. For individual drivers, telematics can help them to reduce their risk of being in an accident or committing a motoring offence, reduce their fuel costs and make their driving less stressful and more enjoyable. These improvements will also apply in their private driving.

There have also been cases where drivers have been able to use telematics data to demonstrate that they were not at fault in an accident or when someone has complained about their driving.

Your telematics provider should provide training on how to interpret and use the telematics data and feedback. Some basic data analysis training would also be useful.

It is also a good opportunity to re-assure concerns about privacy or punitive approaches. Explain what happens if the data shows problems with driving. For instance, help and advice will be given on improving their driving scores, driver training may be provided, or it may be that a change to the driving task (a different route or schedule, for example) would be considered. Everyone should be aware that disciplinary measures would be a last resort, but may be an option for consistently poor driving, which shows no sign of improvement, or if the telematics records a case of extreme bad driving. However, the driver would always have the opportunity to explain the circumstances and offer any mitigation.

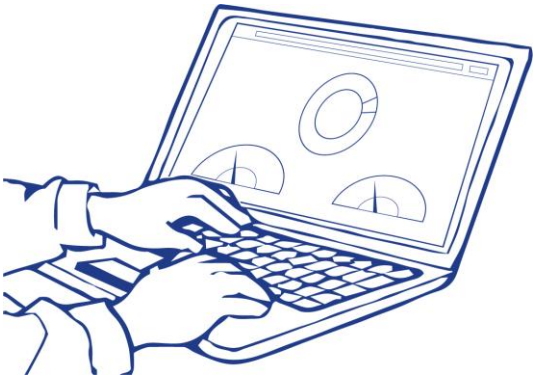
Set a clear start date and when the drivers and managers can expect to start receiving feedback (remember, if you have set a baseline period, the drivers may not start receiving feedback for the first few week or until they have driven a minimum number of miles).

A key message should be the importance of using the driver feedback regularly and the process of accessing it. It is crucial that drivers understand how, and why, they should access their feedback. Explain any incentives, such as a drivers' league table, to encourage feedback use. Consider setting a requirement for drivers to access their feedback at a certain frequency, for example once a week.

ENCOURAGE MANAGERS AND DRIVERS TO REGULARLY VIEW THE FEEDBACK

Much of the improvement in driving that telematics can produce occurs when drivers regularly view and understand the feedback about their driving. This can identify areas where they can improve (for example, better observation and anticipation will mean less harsh braking, which will reduce risk, fuel consumption, emissions and vehicle wear and tear).

Each driver will have access to their personalised driving feedback, probably through a password protected web portal, direct by email or though an app. The feedback needs to be easy to understand and provide useful, relevant information about the driving and how it can be improved.



However, providing access on its own will not be sufficient to ensure that they regularly view their driving data.

To encourage drivers to regularly view and consider their feedback, set expectations for how often they are expected to do so, and monitor how often they actually do. Your telematics provider should be able to provide data on how many times the portal is accessed. Consider setting targets, and incentives, such as a league table.

It is vital to ensure that each driver has an email address, internet access or a device on which the app will work so that they can access their feedback, and that the web portal or app works reliably If there are frequent technical faults which prevent drivers from accessing their feedback, they will quickly become frustrated and give trying to do so. Any such problems should be discussed with your telematics provider as a matter of urgency.

Some form of incentive programme may be needed to encourage greater use of the driving feedback. Options for encouraging drivers to view their feedback include:

- monitor the number of access visits or emails sent
- ensure the design and content of the feedback is accessible, attractive and relevant
- Provide scoring, map views, and dynamic messaging upon the completion of every trip to a driver
- Provide regular reminders to drivers, by emails or texts, to use their portal. This is an opportunity to add safety tips/messages relevant to their driving scores.
- Operate an incentive scheme that includes accessing the feedback regularly.

- Provide real-time feedback at the end of a journey
- Provide dynamic automated emails or texts, with relevant safety tips/messaging
- Conduct regular reviews with drivers and managers,
- Create competition between drivers, for example by leaderboards or a driver's league.
- Link a driver training or education programme to the telematics data
- Provide regular rewards for improving driving scores, and maintaining good scores
- Provide 'penalties' for poor or deteriorating scores

Consult your drivers to identify whether they find the feedback easy to access and understand, and whether they find it useful. Their views may also suggest how the feedback can be changed to make it easier to access and/or understand.

If your company has shared vehicles that are driven by different members of staff, work with your telematics provider to ensure that the telematics allocates the driving data and driving scores to the driver who was driving at the time the data was recorded. If not, the data for those drivers will be relatively meaningless.

If you do not have a reliable and practical method of ensuring that the driving data is allocated to the correct driver for multi-driver vehicles, a smartphone app may be a better way to deliver the telematics than a black box or a dongle. See page 12 for further details.

USE THE TELEMATICS DATA PROACTIVELY

In addition to providing individual feedback to each driver, managers should be provided with feedback about their drivers. Consider what sort of information is important for your managers; they will probably want to be able to view the results for a group of drivers as well as for individuals.

To get the best use from your organisation's investment in telematics, it is essential that your managers regularly view the feedback for their drivers, and proactively used it to inform safety improvements. For example, it can identify priority drivers and vehicles, and potential counter-measures, such as driver training or a change in routes

Set up processes for your managers to monitor the data and feedback, and set clear, roles and responsibilities for line managers and senior managers. It is important to check that the managers actually understand what the data means. For example, if the telematics gives drivers a score out of 100, what does the score mean? What's good, bad and average? How is the score calculated? Your telematics provider should have explained all this, but it would be useful for them to provide some training sessions for managers (and drivers).

In the Scotland Black Box pilot, only half of the managers reviewed their drivers' logs and reports, but the drivers in these companies improved more than those companies in which the managers did not engage with their drivers' data.

The managers that did review their drivers' data reported that it helped them to:

- Identify driver/management concerns in specific areas of risk.
- Identify higher risk drivers.
- Identify journeys, routes or vehicles that are higher risk, or more expensive in fuel use.
- Provide feedback to each individual driver to encourage self-improvement.
- Identify each driver's training needs.
- Increase awareness of road risk with their company's drivers.
- Improve the company's safety record.
- Achieve better fuel efficiency.
- Manage their occupational road risk.
- Improve business performance by reducing costs.

Include manager's reports about the driving data in management meetings, staff briefings and appraisals.

Consult managers to identify whether they find the feedback and data easy to access and understand, and whether they find it useful. Their views may also suggest how the feedback can be changed to make it easier to access and/or understand.

Accident Investigation

An important use of telematics data is to help investigate accidents. Telematics provides objective data about what the vehicle was doing prior to and at the point of an accident (or other event, such as speeding or harsh braking). It can provide a more reliable analysis of what actually happened than witness statements, and can either confirm or contradict the information given by the driver.

The result should be a quicker and less expensive investigation process that produces more accurate and reliable conclusions, and lessons that can be drawn to reduce the risk of repeat occurrences.

However, the telematics data should be used to supplement the other evidence gathered during the investigation, rather than replace it. The driver(s) involved should have an opportunity to explain what happened.

EVALUATE AND REVIEW

As with any health and safety system, your use of telematics should be evaluated and reviewed, to check that it is achieving your aims and objectives, identify any problems that need to be resolved and any improvements that could be made.

An evaluation process would normally include:

- Set Aims and Objectives for the intervention (in this case the telematics)
- Decide what data you will use to measure its success or otherwise
- Decide the type of evaluation, the evaluation methods and timescale
- Collect baseline data (if possible)
- Implement the intervention
- Collect the data
- Analyse the data
- Produce your results and an Evaluation Report
- Use the findings to improve the intervention and/or inform other measures

Set Aims and Objectives
Setting clear aims and objectives will enable you to evaluate the effectiveness of your investment in this technology. If you do not set aims and objectives you will not know what you are trying to achieve, and so it will be very difficult to assess whether you have been successful.

Decide what data you will use to measure its success or otherwise
As you are evaluating the use of telematics, the logical data to measure is the driving data provided by the telematics, which will show how driving behaviour has changed. Other data you can measure includes accidents/incidents/, fuel use, use of the driving feedback by the drivers and managers, use of the data in accident investigation and drivers and managers' views about the telematics.

Decide the type of evaluation, the evaluation methods and timescale
A before-and-after study is probably the best type of evaluation for the introduction of telematics, especially if you can collect some baseline data. You can then compare the changes in driver behaviour after telematics were introduced against the baseline data.

You could also consider using a control group if you have a group of similar drivers who are not using telematics, or who have telematics in their vehicles, but do not receive feedback about their driving. This would enable you to compare the changes in the group using telematics with the changes in the group not using it.

Collect baseline data (if possible)
A common way of collecting baseline data is to install the telematics and collect the data for a few weeks or months, or for a specific mileage (say, the first 250 miles) but do not give the drivers any feedback during this period. This will give a reasonably accurate picture of their driving because it is likely that they will forget the telematics have been installed. Once you have reached the set time period or mileage, the drivers start to receive the feedback and you can measure how their driving changes from that point onwards.

You will probably have other baseline data you can use, such as your company's accident or incident rate, fuel use, vehicle costs and so on.

Implement the intervention and Collect the Data
The implementation phase is the period, for example, one year, from the point when the drivers begin to receive feedback about their driving to the date you have chosen as your final measuring point. During this period the telematics data, and other measurements (such as accident/incident rates) is collected.

Analyse the Data
Analyse the data, compare it against your baseline and draw your results and conclusions.

Managers should be aware that variations in their drivers' scores may be caused by a variety of factors, including, but not limited to, the use of the telematics technology. For instance, changes in the type of driving, and the routes and times for their journeys may affect the driving scores.

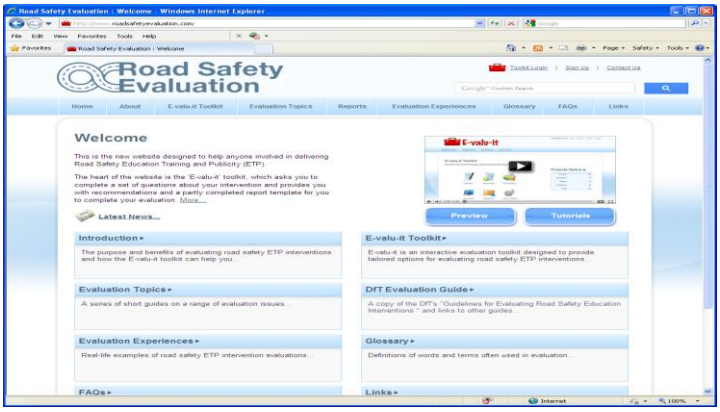
Also, an increase or decrease in the size or composition of the vehicle fleet and number of drivers, or in the amount of mileage, will affect the overall performance.

Produce your results and an Evaluation Report
Produce a report about your findings and conclusions, with any recommendations you wish to make. The report can be presented to senior managers or at Board level.

A summary of the findings can also be presented to staff at relevant meetings.

Use the findings to improve the intervention and/or inform other measures
The purpose of evaluation is to identify whether an intervention has achieved its aims and objectives, to identify improvements and to inform decisions about continued investment. It is very useful to share your findings as widely as possible so others can learn from your experiences.

www.roadsafetyevaluation.com



More advice and information about conducting road safety evaluations is available at www.roadsafetyevaluation.com. There is also an interactive toolkit, called E-valu-it, which helps users to plan evaluations. The questions are based on road safety education interventions, but can be adapted for other interventions, such as using telematics. Later in 2014, RoSPA will be publishing a guide for employers on how to evaluate measures designed to improve the Management of Occupational Road Risk.

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