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Department for Transport

TRAFFIC ADVISORY LEAFLET ITS 1/06

Understanding the Benefits and Costs of Intelligent Transport Systems - A Toolkit Approach

NEW WEBSITE (www.itstoolkit.co.uk) LAUNCHED TO HELP AUTHORITIES UNDERSTAND THE BENEFITS AND COSTS OF INTELLIGENT TRANSPORT SYSTEMS

October 2006

Traffic Advisory Unit

Introduction

The Department for Transport has launched a new website: **www.itstoolkit.co.uk**. The site hosts the Department's guidance: "Understanding the benefits and costs of Intelligent Transport: A toolkit approach". The toolkit approach provides specific advice on:

- the selection of ITS tools to meet policy objectives;
- the benefits & costs of ITS deployment;
- what others have done to incorporate ITS within transport plans; and
- lessons learnt from their experience.

The website is aimed at two groups:

- decision makers to identify strategic goals to help achieve local and national transport objectives, and
- transport planners who undertake the more technical aspects of a project, fulfilling the strategic requirements of decision makers.

This website will help authorities assess the business case for investment in ITS and identify how best to use ITS to meet their own, local challenges, and further supports Local Transport Plan (LTP) guidance.

The Challenge for Local Authorities

As transport networks become more congested, and new highway construction recedes as a sustainable long-term solution, there is a growing need to adopt policies that manage demand and make full use of existing assets. Advances in information technology are now such that "intelligent transport systems" (ITS) offer real possibilities for authorities to meet this challenge: by monitoring what is going on, predicting what might happen in the future and providing the means to manage transport proactively on an area-wide basis.

Importantly, ITS can facilitate the delivery of a wide range of policy objectives, beyond those directly associated with transport, bringing significant benefits to transport users and those who live and work within the area. They can help protect the natural **Environment** and the historic fabric of our towns and cities, by reducing the adverse effects of otherwise unsustainable traffic growth. They can improve **Access** to workplaces, facilities and services for all, and ensure the **Safety** of motorists, vulnerable road users and pedestrians. **Social Inclusion** is fostered, by helping to meet the transport needs of all social groups, including rural residents and they can help promote a more **Efficient** and sustainable, **Integrated** transport system. This overview explains how authorities can relate their own objectives to an investment in ITS, highlights some of the tools available and the benefits that can be achieved.

What are the benefits of using ITS?

ITS can **make travel more efficient** (safer, less polluting, cheaper); a study in Southampton found that a Parking Guidance and Information system reduced the average time spent searching for a parking space by 50%.

Help achieve 'Best Value' as a result of greater information gathering and improved decision-making;

Simplify public transport use by providing accurate real time information about services; 90% of users of the Leicester Star Trak system consider the electronic displays either useful or very useful.

Reduce the effects of pollution from

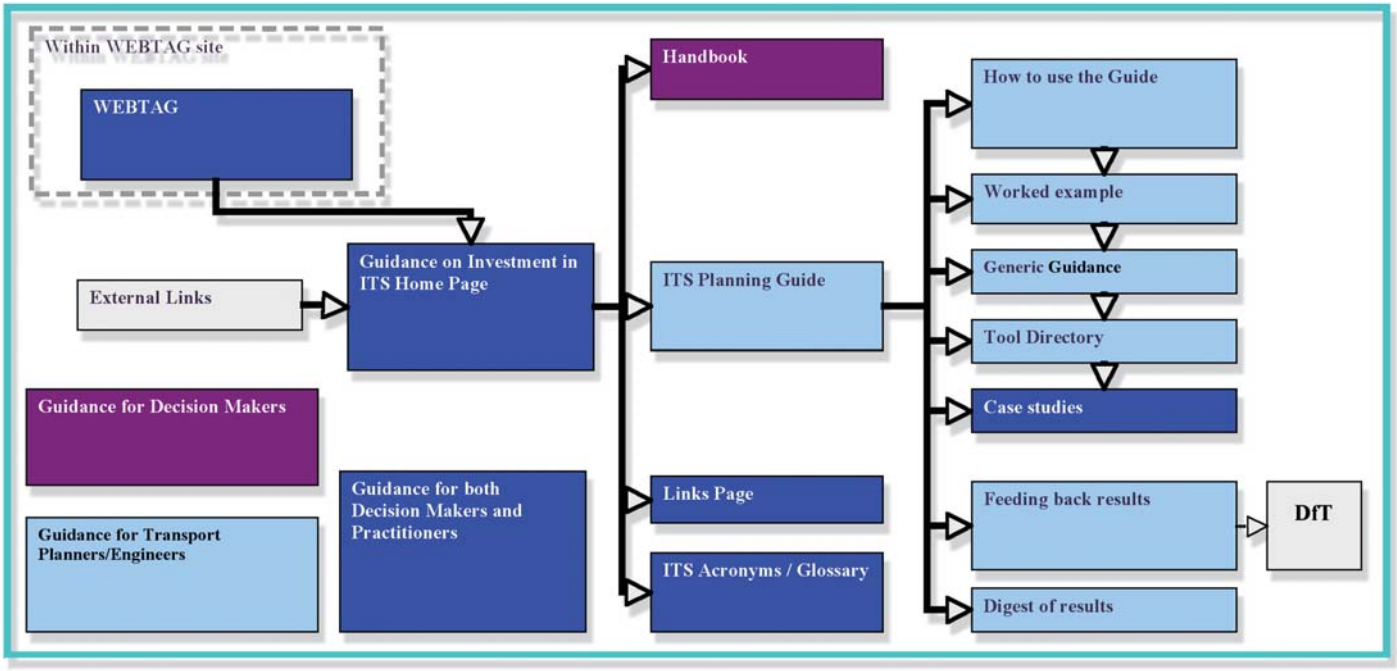

Figure 1: Toolkit Structure

vehicles by better traffic management; The London Congestion Charge Scheme has resulted in a 30% reduction in congestion within the zone (following 6-months of operation), with consequent reductions in vehicle related emissions.

Reduce the number of accidents by providing drivers with more information about conditions on the roads they are using;

Help drivers find the best route to their destination, and change that route if major incidents occur on it;

The Cleopatra project in London found that 58% of respondents would immediately respond to VMS congestion warnings.

Improve the security of public transport passengers and staff by providing extra communications, closed circuit television and better information.

Working with Neighbouring Authorities

ITS, especially when deployed in an integrated fashion, offer a new level of strategic capability for authorities to meet local and national policy objectives. Increasing emphasis on the integration of different tools and the delivery of new and enhanced services across geographic and institutional boundaries allows information sharing between tools and between authorities, which derives the maximum benefit from the investment made.

The Toolkit Approach

The Toolkit, originally in CD format has now been updated and extended to be available to those who wish to use it via the Web (**www.itstoolkit.co.uk**).

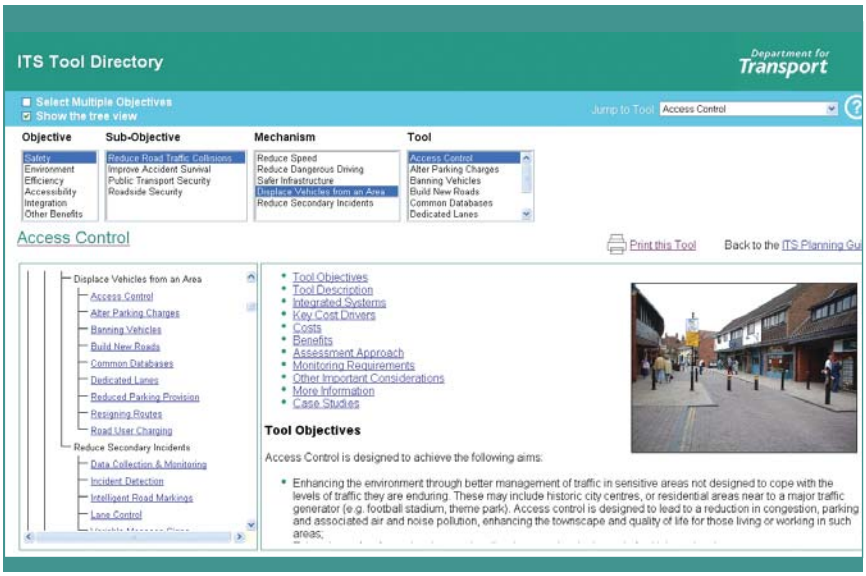

Figure 2: The Decision Tree

The provision of the toolkit online ensures that the guidance can be easily updated, as new information becomes available.

The toolkit complements the Department's guidance on the appraisal of transport schemes called Transport Analysis Guidance (WebTag), also available online at **www.webtag.org.uk**. Links are provided from the toolkit to the appropriate guidance in WebTag.

Figure 1 shows the linkages between the various modules of the toolkit and how the user can move between each. This allows the toolkit to be used in different ways, according to local circumstances and the specific decisions that need to be made.

Users of the toolkit are guided through the various modules, with instructions on how the material should be used. Distinct topics are used to assist in the decision making process.

The toolkit approach enables the user to assess the relative merits of a range of tools, both ITS and, to a lesser extent, conventional measures. Detailed information on these tools is accessed via a decision tree (*see Figure 2*), which requires the user to link policy objectives to the tools to deliver those objectives.

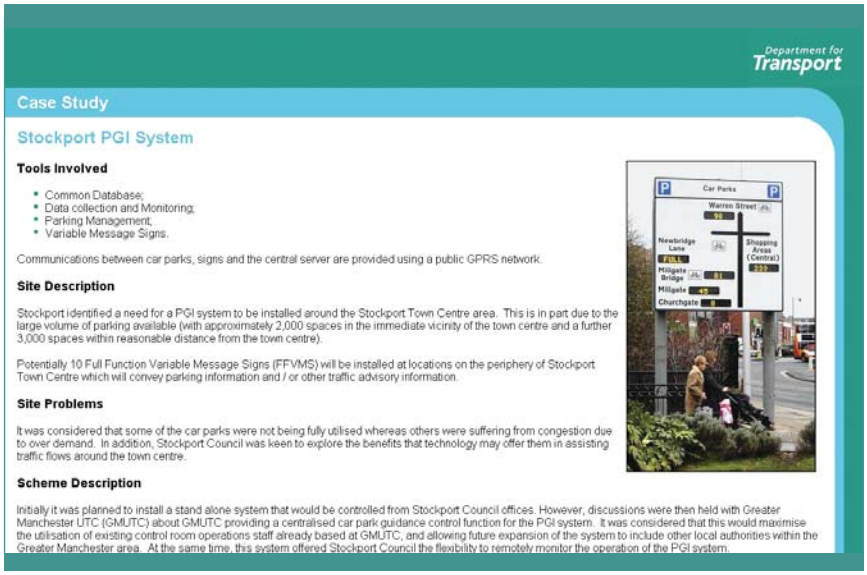

Figure 3: Stockport Parking Guidance Case Study

In reality all Authorities will have multiple objectives and many different mechanisms by which to achieve these. Conventional measures, which can be used to address the same objectives, are also referenced within the toolkit, although the information presented on these is more limited. Details of where further information on conventional measures may be found are also referenced in the toolkit.

Recent changes made to enhance the Toolkit

The main objective of the Phase 2 work has been to supplement the Toolkit by updating and refining the evidence within the guidance on the benefits and costs of ITS tools and enhancing the guidance provided on monitoring, evaluating and reporting on project outcomes.

The case study material has been strengthened and enhanced to ensure that the toolkit remains up to date and relevant. The new version includes updates to 3 existing case studies plus information on a further 5 new case studies. For all case studies, (see *Figure 3* for an example) information is presented on context, policy objectives, benefits, costs (both capital and revenue), and details of any benefit - cost analysis performed within the public domain. The case study material can be accessed directly or via the Decision Tree process, which guides the user to those tools most suited to meeting their specific needs.

Each Case Study includes details of the following

- Site description;
- Site problems;
- Tool(s) description;
- Tool(s) objective(s);
- Anticipated impacts;
- Actual benefits achieved
- Costs;
- Supporting information

A Digest of Results presents further details of reported costs and benefits for tools within the Toolkit.

Evaluating Schemes

The new version of the Toolkit also includes further advice and guidance in the area of monitoring, evaluation and reporting of ITS related schemes. It provides assistance, and a framework, on evaluation and reporting which will enable further enhancement of the guidance through direct feedback from practitioners.

For further advice on the use of the Toolkit, to feedback comments or to propose additional case studies, please write to:

Transport Technology and Standards Division
ITS Policy Coordnation
Department for Transport
Zone 2/03
Great Minister House
76 Marsham Street
London SW1P 4DR

Details of Traffic Advisory Leaflets available on the DfT website can be accessed as follows: www.dft.gov.uk
From the DfT homepage, click on Roads and Vehicles, then Traffic and Parking Management and then Traffic Advisory Leaflets.

The Department for Transport sponsors a wide range of research into traffic management issues. The results published in Traffic Advisory Leaflets are applicable to England, Wales and Scotland. Attention is drawn to variations in statutory provisions or administrative practices between the countries.

The Traffic Advisory Unit (TAU) is a multi-disciplinary group working within the Department for Transport. The TAU seeks to promote the most effective traffic management and parking techniques for the benefit, safety and convenience of all road users.

Department for Transport

Requests for unpriced TAU publications to:
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Welsh Assembly Government

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