DISTILLATE Product D2 "online guidance to using DISTILLATE tools" Research Report

Introduction

DISTILLATE Project D was designed to aid institutional delivery by the application of social science best practice. Further, it is an applied social science project: hence, although grounded in the social and political sciences, Project D did not set out to carry out original social science research (such as developing new theories). Instead, the focus was on applications that tap existing theories and associated methodologies and adapt them to real-world policy and institutional issues (following the mission of the Stockholm Environment Institute (SEI) Policy & Institutions Group within which the management of this DISTILLATE Project D resided). In contrast therefore, to some other DISTILLATE projects, Project D was more concerned with analyzing current institutions and decision-making systems and improving them than with developing new tools, although Project D did also produce a guidebook on partnership working.

Following on from other SEI projects where social scientists and natural scientists had worked in collaboration with engineers and planners, Project D started by preparing a 'logical framework analysis' (LFA – this is available on the DISTILLATE Project D website at http://www.distillate.ac.uk/projects/project-d.php). In this LFA, three focal problems were identified as: internal communications, external communications & stakeholder engagement; and ability to uptake better decision support tools leading to greater evidence-informed policy making. This product sought to address the last of these, the uptake of decision support tools, by helping practitioners access and use – appropriately – the other tools and guides produced by DISTILLATE.

The Report takes readers through the research background to this tool, and the principles and practicalities involved in its design. It then describes the tool itself and how to use it before concluding with some observations on the future utility and development of the tool.

Research background and principles involved in designing the chosen approach

Within DISTILLATE we have produced a number of products, but evidence suggests that they will not be used unless potential users are better aware of them. Thus, new mechanisms are also required to mainstream the information they produce. There are many reasons behind this problem. Preferences and priorities are shaped by how sustainability issues are being framed and interpreted. Issues such as political will and public opinion influence decisions taken. However, there is also a more institutional barrier against integrating sustainability concerns which is the lack of – or inadequate – coordination mechanisms for sharing and using knowledge. Further, both decisions and the knowledge used to support decisions often fail to address key relevant issues. DISTILLATE Project D Product D2 is designed as a framework within which practitioners (often decision makers themselves or technical officers who advise political decision makers) can identify better and utilize the tools produced by DISTILLATE in order to help them address all the key issues and in the right order.

From the DISTILLATE Scoping Study and from interviews with LA officers, we know the need for a clear presentation leading to successful communication. This was backed up by a review of literature looking for similar cases of communication of approach – rather than communication of fact(s) – to practitioners. In any communication there is a sender (in this case DISTILLATE), a message (the

tools and guides) and a receiver (the practitioners); for the DISTILLATE outputs to have policy impact there needs to be iterative communication at the design stage but there also needs to be clear and effective communication at the end stage; The best science research in the world cannot have an impact unless it is communicated effectively. Thus, the research and the communication of that research can be considered the two posts holding up the lintel of having a policy impact.

Project A1 questioning found that ease of access of information – often due to lack of staff time – was seen to be an important enabling factor for uptake of decision and implementation support tools and that organisational issues were highlighted as the least satisfactory enabling factors for their use. Thus ease of access to the 'right' tools is a factor which D2 set out to address. Further, as transparency of tools is often an issue, any framework produced by Project D was designed to be as transparent as possible to the user.

Following on from our success with the 'problem tree' and 'objective tree' used in the LFA – and merging this with the 'flowchart' type of approach to decision making frequently seen in transport documents (e.g. May, A. 2005 "The Decision Makers' Guidebook" available at www.konsult.leeds.ac.uk/public/level0/l0_dmgintro.htm and DfT 2004 "Transport Analysis Guidance" available from www.webtag.org.uk) – it was decided to take a similar approach to facilitating practitioners' access to the DISTILLATE products.

Having decided upon this approach, the next step was to test it with our constituency (in this case the DISTILLATE local authority partners, Steering Group and wider DISTILLATE community). We interviewed local authority officers and asked them how they would best like to access products and what products they wanted – and compared this with what the DISTILLATE Project Managers told us they were producing. We then designed a very simple mock up 'decision tree' as shown in Figure 1, below.

This approach was first tested outside the DISTILLATE community at the annual Transport Practitioners' Meeting in Manchester in July 2007 where it received general approbation from the practitioner community at all levels (i.e. senior 'strategic' practitioners as well as other officers). An afternoon session was planned and held under the title "Partnerships as a Key to Success in Transport and Regeneration Projects" and this attracted 11 attendees from PTEs, TfL, a range of local authorities, national and private sector including consultants. At this workshop session, the idea of using a flowchart or decision tree approach for disseminating information to practitioners was mooted. This became the nascent idea for this D2 product. The main advice provided by the practitioner attendees at TPM was that the any decision trees should ideally have no more than 5 layers and not be unnecessarily complex.

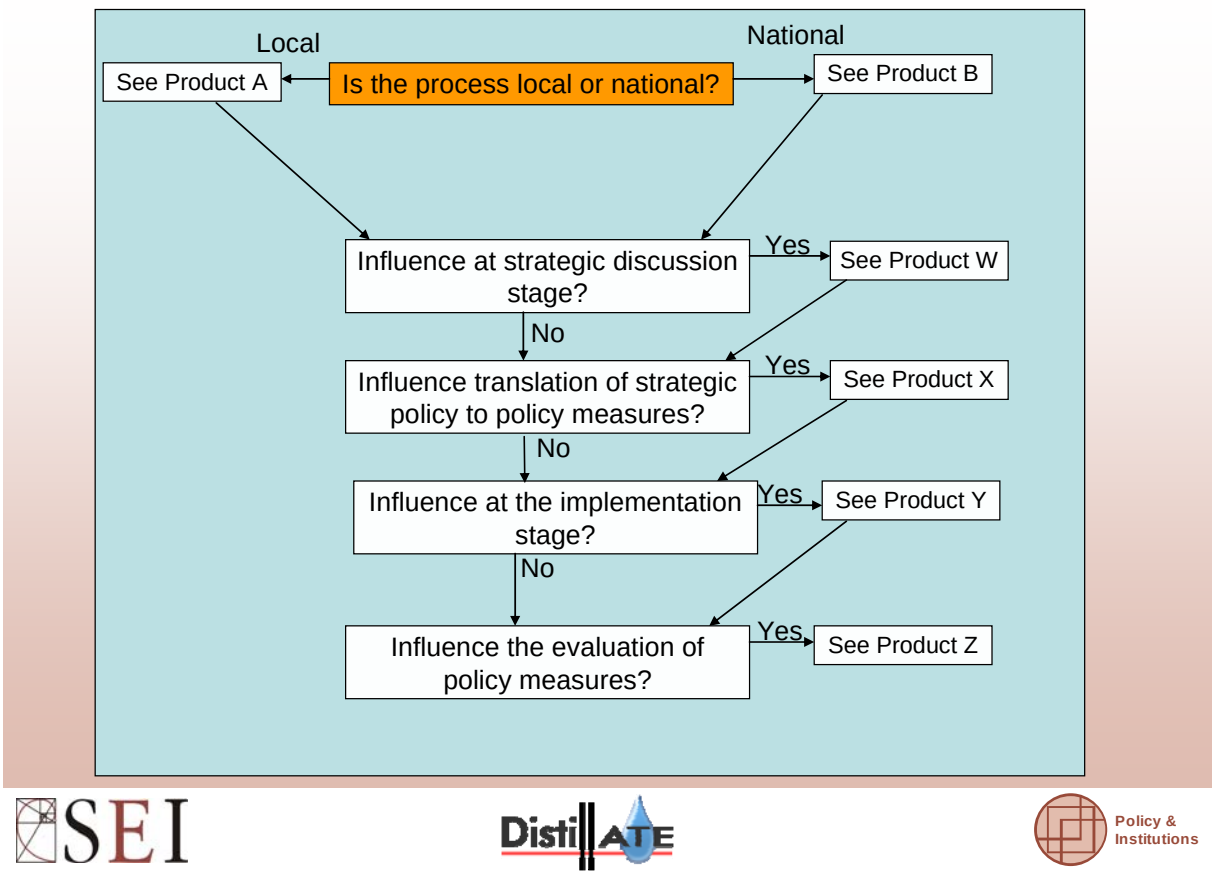

Figure 1: the original slide as first seen at TMP in Manchester, 2008 (for this design thanks to Neil Paulley and Charlotte Brannigan, TRL).

One issue which came up internally to the DISTILLATE partners was the need to have a linear approach. Figure 1 shows that the practitioner-user is taken through the decision tree in a 'flowchart' manner rather than a branching manner so, properly, this is more like a flowchart than a decision tree.

Flowchart design stage

The original D2 flowchart emerged largely through discussions between SEI, TRL and the Programme Management Group – in particular the Principal Investigator. There was a need to transform the working sketches (in some cases drawn by hand on A3 sheets of paper) into something more structured and investigate the potential for creating a mock up of an interactive version. The need for specialist help became obvious and so the task was given to David Watkins at Heriot Watt University to produce an initial, electronic version. This was presented to the Management Group in September 2007 for comment. This can be seen in Figure 2 below:

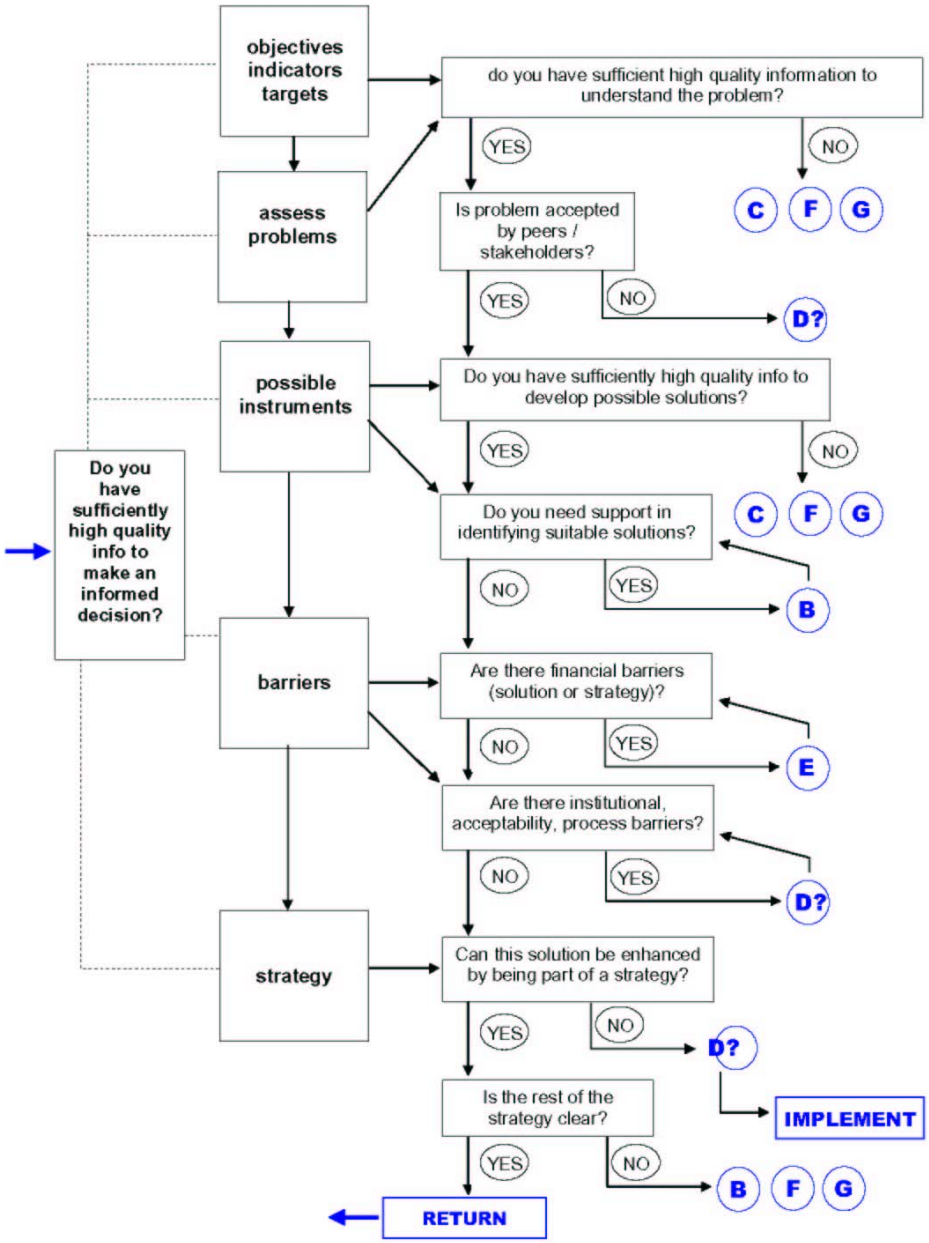

Figure 2: the initial 'formal' drawing of the flowchart (by David Watkins)

This is, in essence, little more than an electronic version of the sketch resulting from the discussion mentioned above. The process that was now put into place was to populate this structure correctly with the DISTILLATE tools. Individual Project Managers (DISTILLATE Projects B through G) were interrogated as to whether they agreed that this was a logical structure to build on and whether the questions were relevant to users' needs. They were also asked to provide a standardised three page information summary leaflet about each of their products and identify the correct 'slot' for it on the flowchart.

In the case of the Guidance documents these three pages took the format of a *product description* explaining what the Guide does. This is followed by short sections on who should use it, what it should be used for, where it is available from (the default being the DISTILLATE website at http://www.distillate.ac.uk) and a brief guide on how the product is used. For the tools this also included a short section on the expected output of using the tool.

Based on the comments received from Project Managers, the flowchart evolved and progressive versions were shared through e-mail until a final draft version was presented to the Management Group and Steering Group in December 2007. The static flowchart was interpreted to map out all possible routes in terms of possible decisions and choices. These were then built into an interactive Adobe PDF document that enabled the user to visualise how the tool could be realised as a live web based instrument.

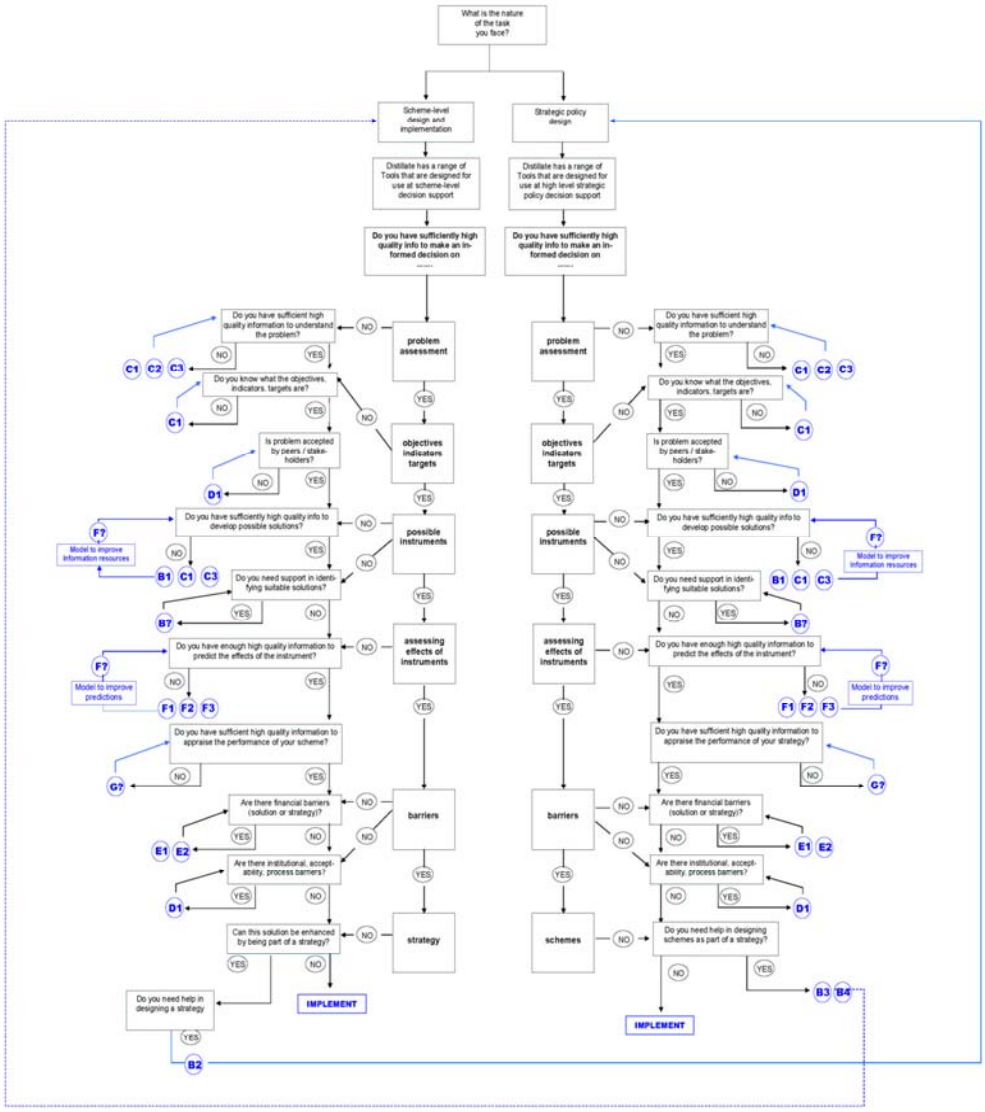

Figure 3: the final version of the flowchart agreed by Project Managers and supported by the Steering Group.

This final flowchart, shown inn figure 3, is basically similar to (although a refinement of) Figure 2 except that there are two ‘mirror image’ routes through the tree depending on whether the practitioner is interested in scheme or strategy design, and an opportunity for the user to transfer to the other route if appropriate. Heriot Watt also drafted out an "interactive" website version of the interpreted version to see how this would operate dynamically. However, as HW web design facilities were under time constraints it was then decided to hand the final website production to TRL with the following requirements:

- To produce a working, usable, online example of the tool as designed.
- To liaise with HW and SEI, and anyone else appointed by the Principal Investigator, on the design.
- To test the design with potential users so that they are satisfied that it is usable by the practitioner community.
- To produce the tool so that it is compatible with the DISTILLATE website (www.distillate.ac.uk) although site-independence was a bonus as it had been suggested by DfT that this tool be hosted on the Local Transport Planning Network
- To present the tool back to the Management Group as agreed with the PI and the Project D Project Manager.

Tool design and delivery stage

TRL was responsible for finalising the decision-making tool design and delivering it in the form of a web-based tool. The flowchart developed by the DISTILLATE team (figure 3) was used as a basis for the tool development. The key aim of the tool was to develop a tool that was simple to use, quickly providing the user with a set of relevant recommended DISTILLATE products. It was agreed that the utility of the tool would be greater if it could also incorporate products from others, so this was another aim of its design. By using a generic decision tree, based on the problem facing the practitioner, and fitting our DISTILLATE outputs into it, we are confident that the outputs of similar research products can be located on this decision tree.

The DISTILLATE decision-making tool was tested by Project Managers within the DISTILLATE team, but also sent to local authority and other transport practitioners who expressed an interest in testing the tool, or who had attended the final DISTILLATE dissemination events in London and Brussels. The tool has been exhaustively piloted by the DISTILLATE project team with amendments subsequently being made to the text and the location of products. It was also demonstrated to the Steering Group, who thought it very useful. The tool was demonstrated to the DfT and Brussels workshops and the test site link was sent to all participants with invitations to comment (one response was received). TRL's quality control procedure was used to ensure the proper operation of the software itself.

The software was tested at several levels. During the development process individual parts of the software were tested to confirm that they worked as expected. After the software had been completed (March 2008) this was again tested using a test plan. This plan had been written specifically to test the software against the outline requirements which had been agreed by Management Group (see bullet point list above). The planning, development and testing process is subject to ongoing reviews according to TRL's quality assurance (QA) procedures.

Using the Tool

To use the tool, users should use the following instructions (provided at the start of the process) as shown below in Box 1:

Box 1: DISTILLATE Decision-Making Tool User Instructions

1. Enter details about the scheme or strategy concerned:

    - Scheme/strategy title;
    - Reference No (if any)
    - Assessed by
    - Additional details

2. Specify the nature of task

    - Scheme level design; or
    - Strategic policy design

3. Answer a series of questions related to the scheme or strategy in question. All answers are 'yes' or 'no'. Each subsequent question depends on the answer to the previous question.
4. The question numbers indicate the number of questions per stage. A decision-tree on the left-hand side of the screen indicates your progress through the questions.
5. Finally, the tool processes the user's answers and produces a printable report containing a list of recommended DISTILLATE products (tools and/or guidance notes) that may assist with your decision-making process.

As per the flowchart (see Figure 3 above), the decision-making process is divided into six distinct phases related to the process up to implementation of a scheme or strategy. These stages are outlined below in Box 2:

Box 2: Stages in the Decision Making Process

Stage 1: Objectives, Indicators and Targets

Stage 2: Problem Assessment

Stage 3: Possible Instruments

Stage 4: Assessing Effects of Instruments

Stage 5: Barriers

Stage 6: Strategy/Scheme

Box 3 lists the DISTILLATE products which are accessible via the tool.

Box 3: DISTILLATE Products – Guidance and Tools

Option Generation

- A KonSULT-Based Strategy Option Generator
- A toolkit for identifying the accessibility problems faced by various disadvantaged groups and for generating solutions
- A streetspace reallocation scheme option generator designed for interactive stakeholder workshops
- A toolkit for qualitative generation of scheme options to promote the generation of 'out-of the-box' proposals

Indicators

- Designing a Monitoring Strategy to Support Sustainable Transport Goals
- Advice on Selecting Indicators for Sustainable Transport
- Monitoring Across Sectors and Spatial Levels for Sustainable Transport: A Good Practice Guide

Organisational Behaviour

- A Guide to Cross-sectoral and Intra-organisational Partnership Working

Funding

- Local Transport Funding Toolkit for Decision-Makers
- Guidance for Local Transport Funding Bodies
- An Assessment of the Implications of Funding Restraints

Analytical Tools

- MARS Strategic Policy simulation and optimisation
- Improved methodologies for demand restraint modelling
- A micro-simulation approach to modelling bus reliability
- Modelling sub-way park and ride in a strategic model (TRL)

Appraisal

- Small and Local Scheme Assessment tool
- A tool for exploring the distributional impacts of the service delivery strategies of different agencies
- Real-time assessment of the distributional impacts of accessibility schemes
- A spreadsheet tool for appraising the distributional impacts of street space reallocation schemes
- Guidance on addressing the inconsistencies in appraisal practice

The following series of screen shots illustrate how the tool is used by the user. Figures 4, 5 and 6 show the user inputs to the tool and Figure 7, shows the screen output from the tool process. The scheme or strategy details are given (as entered by the user at the start of the process), followed by an overview of the recommended product titles (see Box 3 for full list of products), grouped by the stage in which they were recommended.

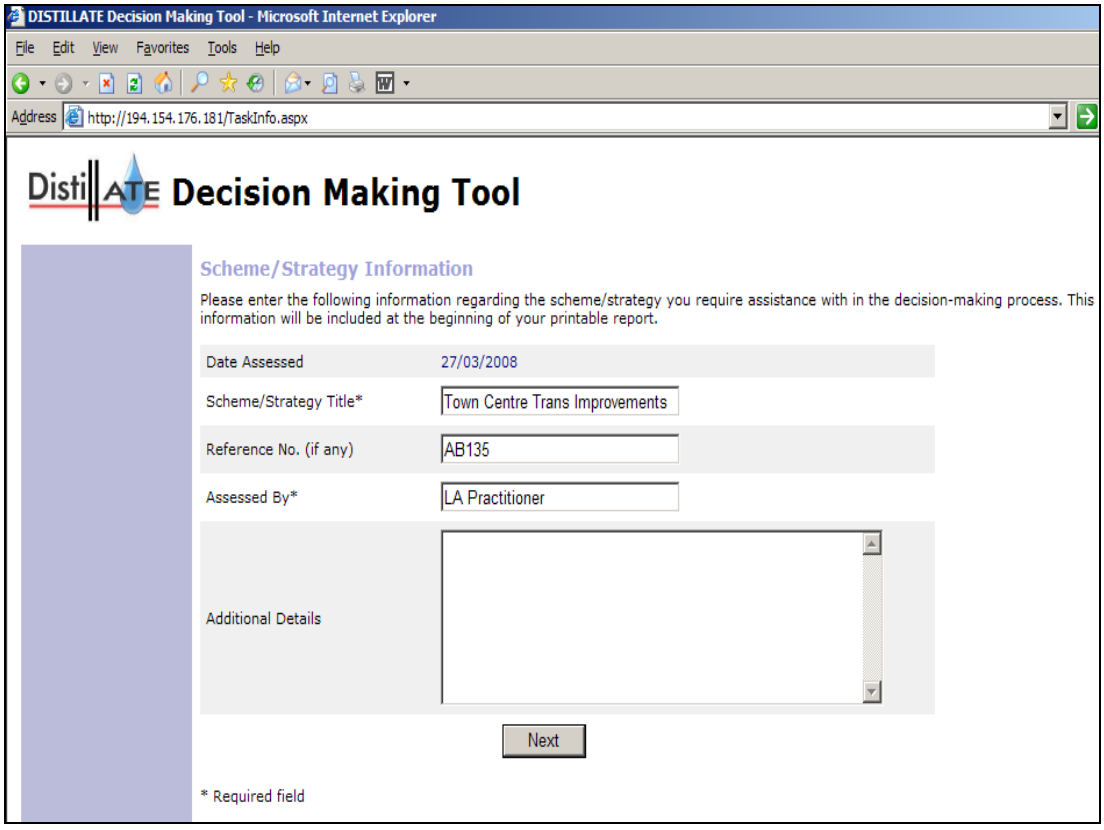

Fig. 4: Enter Scheme / Strategy Information

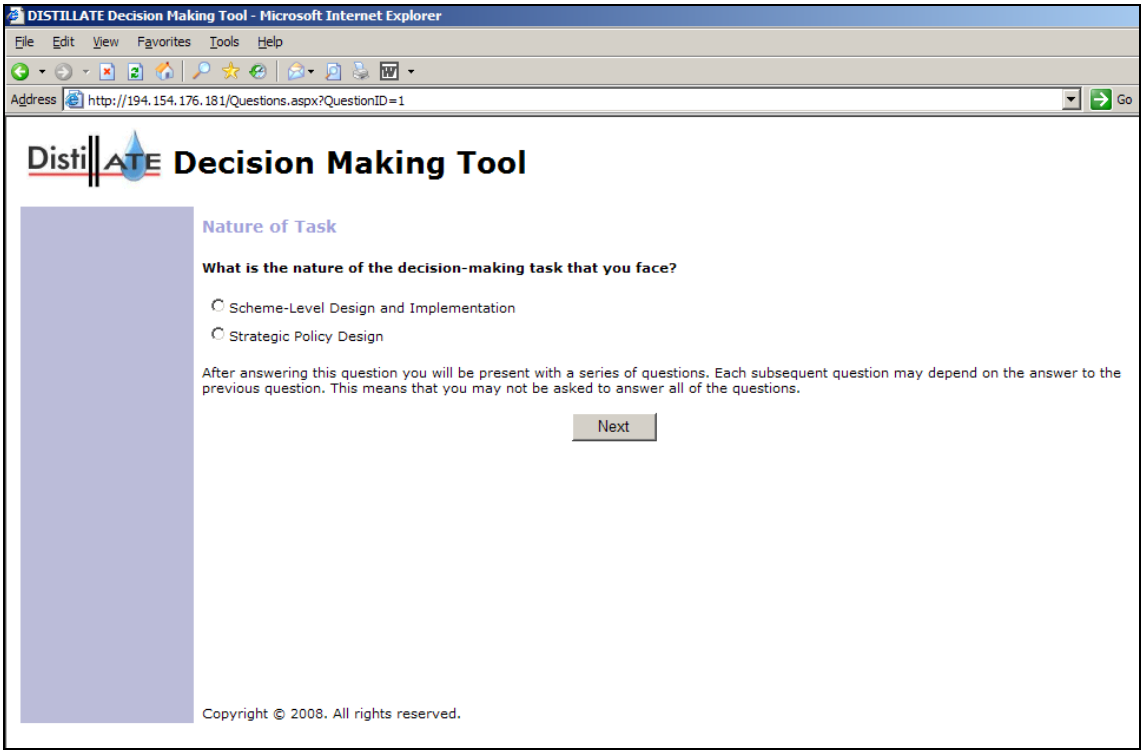

Fig. 5: Select Scheme or Strategy

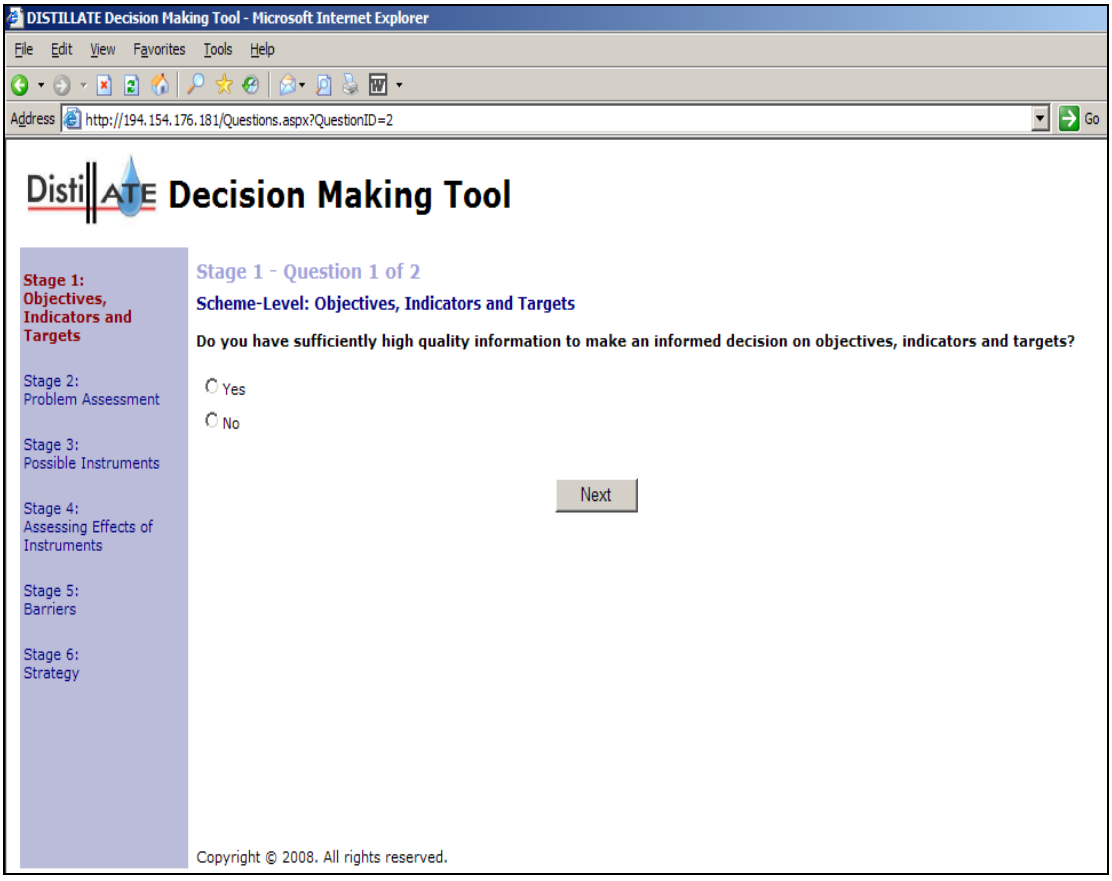

Fig. 6: Questions at each of the six stages ('yes' or 'no')

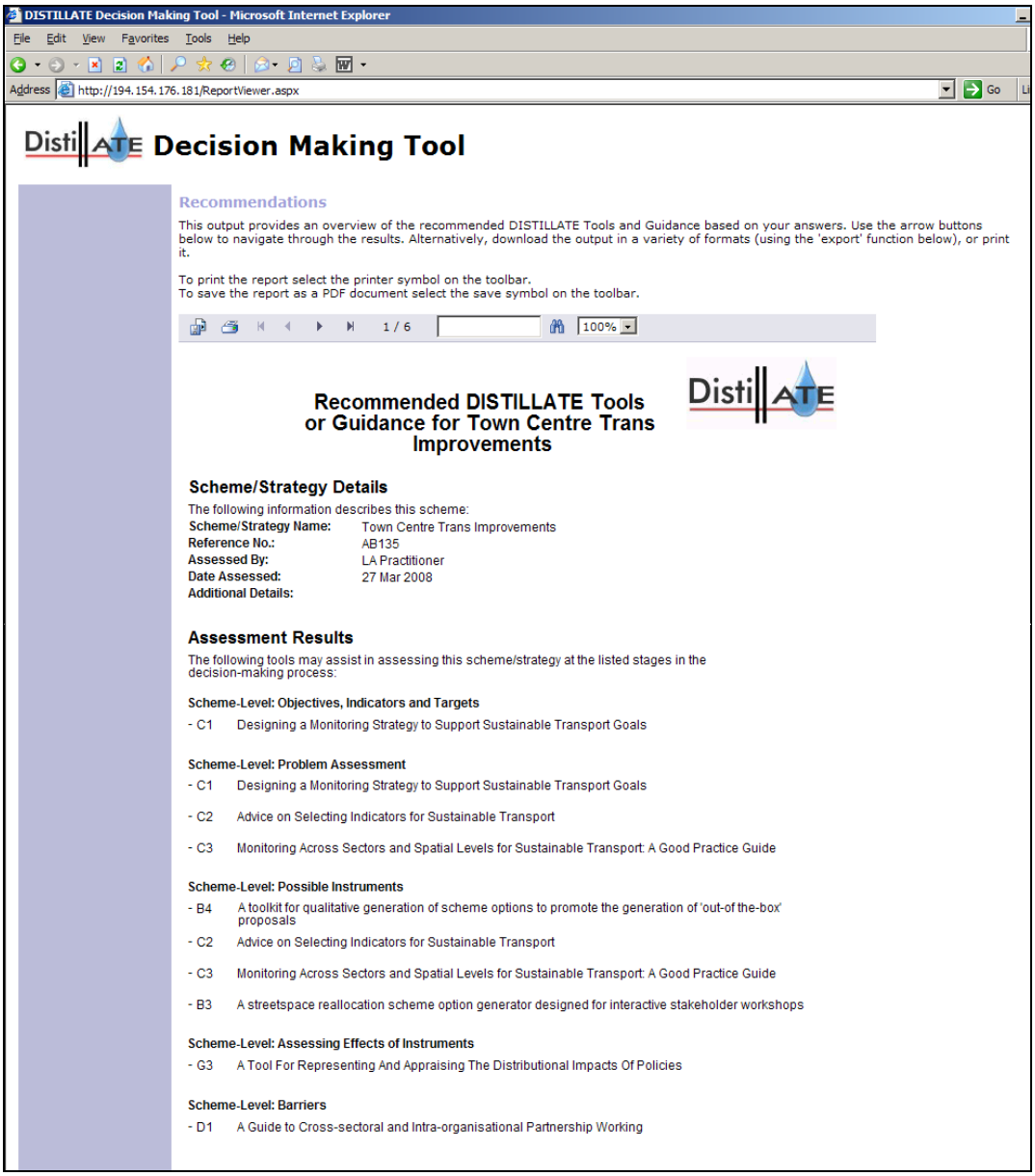

Fig. 7: Initial Output – overview of scheme/strategy details and recommended product titles

Following on from the overview, more detailed information on the recommended products is provided. This is in the form of a paragraph describing the product (guidance or tool), and contact details and a web link. The link takes the user either:

- direct to the guidance document; or
- to a three-page summary document describing a tool and how to access it.

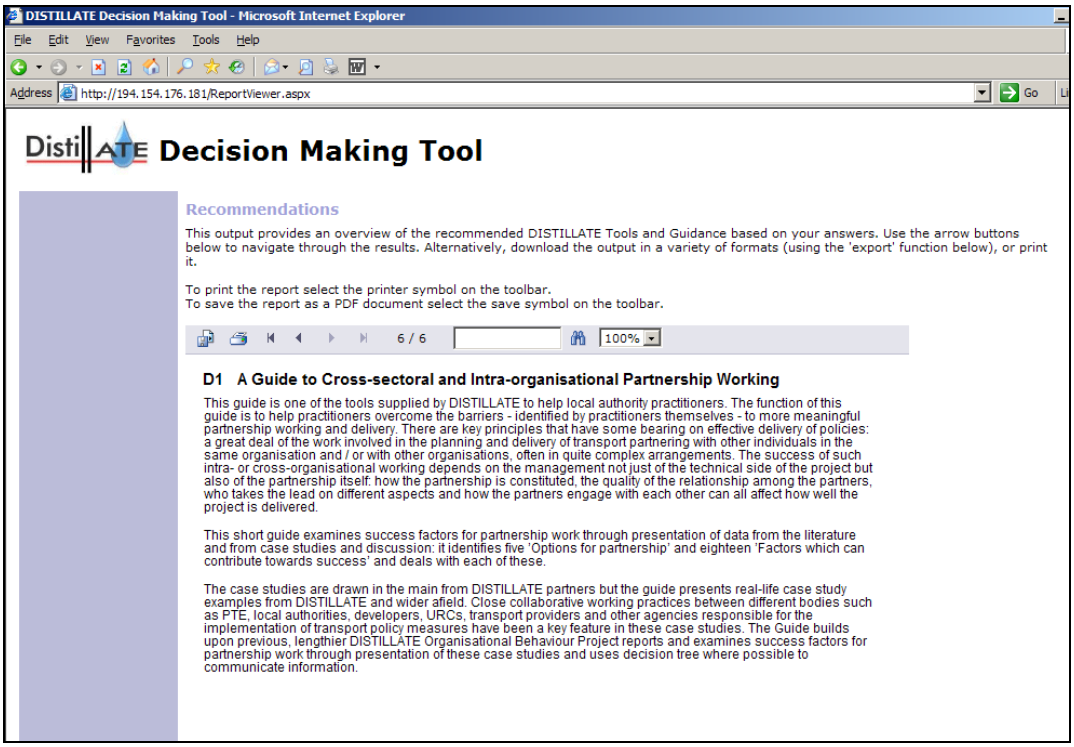

Fig. 8: Initial output followed by a series of paragraphs describing the recommended products in more detail

The output can be viewed on the screen (as showed in Fig 8), and also downloaded and saved or printed in a variety of formats, including Word and PDF (see Fig 9 below)

Future developments

Although there is currently a DISTILLATE website (www.distillate.ac.uk), maintenance of the site beyond the end of the project (31st March 2008) is uncertain. Therefore alternative hosting opportunities have been sought. It was agreed that the DISTILLATE web-based decision-making tool should be hosted on the Local Transport Planning Network (LTPN) website. Not only will the tool be supported beyond the completion of the DISTILLATE project, but it is more likely that local authority and other transport practitioners will identify and use the tool from the LTPN site than they would were it to be hosted solely on the existing DISTILLATE website.

The DISTILLATE decision making tool currently provides users with recommended products related to the DISTILLATE project at the various stages. However, it is recognised that the range of DISTILLATE products do not provide guidance or support for all tasks faced by practitioners, and that there are other products (including guidance from DfT and models from other consultants) which could usefully be accessed in the same way. Therefore the tool has been designed to allow the potential to add additional guidance/tools as recommended products in the decision-making process.

As the tool was designed to meet the needs of a wide variety of practitioner users it is anticipated that it will be of use to a great number of people unfamiliar with the approach of DISTILLATE or who are looking for specific tools for clearly or less clearly defined tasks. As noted above, the ability for additional guidance and tools to be added to the tool in the future is a design feature, but the actual addition of such facilities must be the subject of future development. Feedback from users of the tool once it is on general release should indicate how the tool could be developed to improve its usability.

Recommended DISTILLATE Tools or Guidance for Town Centre Trans Improvements

Scheme/Strategy Details

The following information describes this scheme:

Scheme/Strategy Name: Town Centre Trans Impro
Reference No.: AB135
Assessed By: LA Practitioner
Date Assessed: 27 Mar 2008
Additional Details:

Assessment Results

The following tools may assist in assessing this scheme/strategy at the listed stages in the decision-making process:

Scheme-Level: Objectives, Indicators and Targets

- C1 Designing a Monitoring Strategy to Support Sustainable Transport Goals

Scheme-Level: Problem Assessment

- C1 Designing a Monitoring Strategy to Support Sustainable Transport Goals
- C2 Advice on Selecting Indicators for Sustainable Transport
- C3 Monitoring Across Sectors and Spatial Levels for Sustainable Transport: A Good Practice Guide

Scheme-Level: Possible Instruments

- B4 A toolkit for qualitative generation of scheme options to promote the generation of 'out-of the-box' proposals
- C2 Advice on Selecting Indicators for Sustainable Transport
- C3 Monitoring Across Sectors and Spatial Levels for Sustainable Transport: A Good Practice Guide
- B3 A streetspace reallocation scheme option generator designed for interactive stakeholder workshops

Scheme-Level: Assessing Effects of Instruments

- G3 A Tool For Representing And Appraising The Distributional Impacts Of Policies

Scheme-Level: Barriers

- D1 A Guide to Cross-sectoral and Intra-organisational Partnership Working

Tool Information

Details of the tools described in the previous section are listed below:

B3 A streetspace reallocation scheme option generator designed for interactive stakeholde

This technique has been developed to enable local residents, businesses and other stakeholder groups to contribute to the generation of innovative street design options, in advance of formal public consultation. It is an example of an 'inside-the-box' constrained option generation method, where possible street design elements are presented to participants, who are invited to consider how many of each should be provided, and where along the street. It involves a combination of physical and computer-based design aids. The technique is used in street design workshops, where participants first discuss what local stakeholders (residents and businesses) would like the designs to include, then consider how these requirements could translate into the provision of particular street design elements and, finally, generate alternative design options.

Participants are provided with a large scale plan of the street and a series of acetates and blocks at a scale of 1:250 depicting different features (e.g. parking bays, bus lanes, seating). Participants then develop complete street layouts that they feel best meet the identified requirements and their aspirations for the area, trading off between competing demands for space. Finally, each design option is entered into a GIS-based computer program that displays the generated street layouts and can convert them from 'block' to line marking format, which are presented for collective discussion and agreement. The outcome is either a preferred option, or a small number of options that can be put forward for formal public consultation.

Using scale blocks and plans makes the design process simple for non-professionals to understand - while making explicit many of the constraints - and encourages engagement and experimentation. The computer-based conversion to road markings gives participants confidence that the designs are being taken on board by the professionals. The method allows Councils to regain trust among local communities, who often regard conventional consultation as just a rubber stamping exercise, and enables officials to tap into local knowledge and aspirations, and gain a wider understanding of the area's needs. The technique has been applied in Bloxwich, in the West Midlands, with very favourable results.

Contact Details

- **Web:** http://www.distillate.ac.uk/outputs/products.php
- **E-mail:** Peter Jones - PeterJones@transport.ucl.ac.uk
- **E-mail:** Roselle Thoreau - roselle@transport.ucl.ac.uk

Fig. 9: PDF version of tool output