

DISTILLATE
Inception Report

26th July 2004

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1. Introduction

This Inception Report describes the research planned in a new EPSRC-funded research programme, DISTILLATE: Design and Implementation Support Tools for Integrated Local land Use, Transport and the Environment.

The principal objective of DISTILLATE is to develop, through a focused, interdisciplinary research programme, ways of overcoming the barriers to the effective development and delivery of sustainable urban transport and land use strategies and, through them, enhanced quality of life.

DISTILLATE is coordinated by the Institute for Transport Studies at the University of Leeds; its other research partners are the Centre for Environment and Planning at the University of the West of England, the Transport Studies Group at the University of Westminster, the Stockholm Environment Institute and Department of Mathematics at the University of York and TRL Ltd. In addition there are sixteen local authority members who between them provide some 35 case studies. These are listed in Annex 1.

The DISTILLATE programme includes seven technical research projects which were selected during an initial scoping study as reflecting the priority research needs required to meet the overall objective. Each project involves a number of the case studies, and there is significant interaction between them. The overall programme has been carefully designed to facilitate these case study inputs and interactions. The scoping study included initial surveys of local authorities' needs and a series of literature reviews. The reports of these are available as source documents from the Programme Manager.

This Inception Report sets out the background to the programme, its overall objectives and structure. It then describes each of the individual projects in turn, and presents the overall work plan. Subsequent sections consider the role of the local authorities, the approach to dissemination and exploitation, and the arrangements for programme management. A series of annexes provide more detailed information.

2. Context and Programme Objectives

2.1 The EPSRC Sustainable Urban Environment Programme

DISTILLATE is one of 14 research programmes funded under the UK Engineering and Physical Sciences Research Council's overarching research programme on the development of a Sustainable Urban Environment (SUE). The SUE Programme was designed by EPSRC in the context of three key drivers – the need to improving the quality of life of the UK's citizens, to supporting the sustainable development of the UK economy and society; and to meet the needs of the users of EPSRC funded research in industry, commerce, Government and the service sector. Through this Programme, EPSRC sought to support research that:

- targets key quality of life indicators in water and air quality, waste and resources, transport. Climate change, land use, construction and housing;
- is conducted in the context of the 1987 Bruntland Report definition that sustainable development "... meets the needs of the present without compromising the ability of future generations to meet their own needs.";
- meets the needs of users of the research through supporting developments in sustainable products and services; energy, water and utility services; integrated transport and distribution services; sustainable environmental services and holistic waste management; and efficient and inclusive health and public services.

As the work within DISTILLATE progresses, we will ensure that we interact with, and benefit from, the work of the other research programmes within SUE. Of the 14 programmes, four are in a cluster focusing on transport issues, with whom we will collaborate more closely.

2.2 The research challenge

Transport is one of the most significant sources of unsustainability in urban areas. Across Europe, urban traffic congestion costs in excess of €100B each year, and these costs are predicted to double in the next decade. Local and trans-boundary pollution and the resultant health impacts impose costs of a similar magnitude, and there are around 20,000 fatalities on urban roads each year. Those without cars are increasingly disadvantaged as land use patterns change to accommodate the dominant role of the car. On a wider scale urban transport alone contributes around 14% of all the CO₂ generated in Europe, and is a major contributor of NO₂, and thus reduces the continent's ability to meet its global (EC, 2001) and regional (DETR, 2000a) commitments.

Many countries are now advocating integrated approaches to these problems, in which the full range of transport policy interventions (infrastructure, management, regulation, information and pricing) are combined with land use, environmental and wider social policy instruments (ECMT, 1995, DETR, 1998, 2001, Whitelegg & Haq, 2003). Most of the constituent elements of these strategies are already available, although there will always be the potential for new technologies (Perrett and Stevens,

1996; Perrett et al, 1998; Dodgson et al, 2000); and new influences on behaviour (Stradling et al, 2000, Jones and Sloman, 2003). However, there is a serious lack of detailed understanding of the impacts of many of these policy instruments and of their transferability to different contexts (TRANSPLUS, 2003a). A recent review for DfT concluded that, of some 60 possible policy instruments, reliable predictions of impact on demand and supply could only be made for around 15 to 20 instruments (Simmonds et al, 2001). There is therefore a significant need for better empirical evidence, and our KonSULT knowledgebase (May et al, 2002, May, 2003a), developed with EPSRC and DfT support, provides a basis for recording and disseminating these results. Even more serious is the lack of understanding of how to design integrated strategies which most effectively combine infrastructure, management, regulation and pricing. The limited results to date indicate the benefits of synergy between these types of instrument (Dasgupta et al, 1994; May et al, 2000; Proost and van Dender, 2000; Martens et al, 2002, Emberger et al, 2003), but do not yet provide the basis for cities to design strategies which will meet their future needs most effectively.

Even where appropriately sustainable strategies are identified, there are serious barriers to their implementation. The recent European Conference of Ministers of Transport (ECMT) report (ECMT, 2002) highlights poor policy integration and coordination, counterproductive institutional roles, unsupportive regulatory frameworks, weaknesses in pricing and poor data quality and quantity as reasons for the failure of most cities to pursue the policies advocated in its earlier report (ECMT, 1995). Above all, it notes the challenge of “bringing together the diverse and divergent interests of [the] great many actors in the urban transport system”, and that “coordination and cooperation between these stakeholders – while essential to long term implementation of sustainable strategies – is often complex and resource intensive.” These observations are reflected in more recent work in the UK (W S Atkins 2001, 2003, Steer Davies Gleave, 2002). Recent work within the consortium has indicated the problems that local authorities face in trying to implement cross-sector initiatives, where they have to overcome barriers resulting from different priorities, cultures and funding regimes (Jones *et al*, 2003). Research into governance issues has demonstrated that institutional boundaries and responsibilities create barriers to the integration of policy measures and instruments (Stewart et al, 1999; Hull, 2003a, 2003b; Beattie et al, 2001). The value of participatory GIS as a way of more accurately representing different stakeholders’ knowledge has been highlighted in recent work at York (www.york.ac.uk/inst/sei/pp/pubpartic.html). Here GIS-P has been used to document knowledge which local advocacy groups and other citizens possess, and to draw non-specialist understandings of problems into policy responses in a more direct way than previously attempted (Yearley *et al* 2003). While some of the solutions to the problems are clearly in the social science domain, they can benefit greatly from engineering and applied science research. Particular elements include the development of novel and enhanced models of the transport and land use system (Webster et al, 1988; Simmonds et al, 2001; Wegener and Grieving, 2001); development of indicator frameworks for cross-sector evaluation (Jones et al, 2003); improved data collection procedures relevant to the wider range of sustainability indicators, design tools which aid the development and implementation of integrated strategies (TRANSPLUS, 2001); and interactive means of involving the full range of stakeholders in making effective decisions using, for example, GIS technologies (Carver et al, 2001; Cinderby, 1999; TRANSPLUS, 2003b). These developments and

their application are best pursued through a coordinated programme of science, social science and engineering research, and this is the focus of this consortium.

2.2 Vision, Objectives and Scope

Our vision is of a step change in the way in which sustainable urban transport and land use strategies are developed and delivered. We aim to achieve this through a focused programme of research in the UK context, in such a way that the more generally applicable tools and approaches can be disseminated widely both in the UK and internationally. Given this vision, the principal objective of DISTILLATE is to develop, through a focused, inter-disciplinary research programme, ways of overcoming the barriers to the effective development and delivery of sustainable urban transport and land use strategies and, through them, enhanced quality of life. We have defined the scope to include all passenger transport policy interventions, both large and small, which have a significant impact on sustainability, as well as those land use interventions which have a significant impact on transport. While focusing on urban areas, we will also be considering the regional context of those areas. Given the balance of local authority interests, we have decided not to address freight transport specifically.

The principal scientific contributions will be in two broad areas: the improvement of analytical support tools for strategy development and scheme design and operation; and the enhancement of decision-making processes and techniques including the development of indicators. These will result in advances in both applied and social science research which should be of benefit to those conducting research in cognate areas. We will be targeting key quality of life indicators in transport and land use; seeking ways of meeting the needs of the present without compromising the ability of future generations to meet their needs; and meeting the needs of research users by supporting developments in integrated transport and land use. Collaboration within the consortium will strengthen the capability of the UK research base in urban sustainability and provide an identifiable source of multi-disciplinary academic excellence able to respond to the needs of end users, within the context of a strategic research agenda.

In this context, this research programme has the following seven sub-objectives, each of which relates to a research project which had been identified as a priority research need by our local authority partners:

1. to document and review the barriers to the delivery of sustainable strategies;
2. to develop new methods for generating appropriate strategy and scheme options and for designing integrated strategies;
3. to establish an effective set of core indicators and targets as an input to strategy formulation, forecasting and appraisal;
4. to support the more effective collaboration between the agencies responsible for transport strategy development, both within and between local authorities;
5. to develop approaches for overcoming the financial and other barriers to effective implementation;
6. to enhance existing predictive models to reflect the impact of the wider range of policy instruments, and to facilitate interactive strategy development;
7. to improve the methods used for appraisal to reflect more effectively the requirements of sustainability.

2.4 Programme structure

The preparatory work for this proposal was conducted as part of a scoping study funded by EPSRC, work on which has been reported in a series of support documents available from the Programme Manager. In addition to developing our research ideas in consultation with end users, we carried out reviews of 25 key underlying issues.

We developed our programme structure, during the scoping study, through a series of discussions with local authorities, the Department for Transport and other stakeholders. In collaboration with our local authority partners, we identified the following five key stages in the development and implementation of a transport and land use strategy:

- problem identification;
- strategy development;
- scheme design;
- implementation; and
- operation.

Our proposal for a project to study the operation stage was not successful, and we have therefore had to omit consideration of this stage from this research programme.

For each of the remaining key stages we identified the barriers to effective strategy development and implementation, developed research proposals to tackle those barriers, and assigned priorities to them. From this longer list of potential research tasks, we identified nine which are priority needs for our local authority partners, and offer a significant research challenge. These have been grouped into our two broad research areas.

Within the key stages we identified, with our local authority partners, some 35 case studies which could usefully illustrate and inform our research. Three of our local authorities have offered case studies which cover all of these stages, and involve projects and processes which will be current throughout the four years of our research programme. Those local authority partners offering these case studies are referred to as “super sites”. They are Bristol City Council, Surrey County Council and Merseytravel.

With the encouragement of the local authorities, we have grouped the case studies into four clusters, which will be managed by the local authorities themselves, and will provide an opportunity for the members of a cluster to learn from one another, as well as from our research. The clusters will also be a research resource for the project team to learn from practical experience. Two of the clusters map directly onto our two broad areas of research; the other two apply that research to two main areas of policy in which the local authorities have particular interest: development projects and sustainable transport modes. Some of the case studies in each cluster will be “laboratory” case studies which we will use intensively in our research; others will be “comparator” case studies for use by the clusters as part of the learning and dissemination process. Further details of the case studies are given in Annex 1. It should be noted that the case study list may be modified during the course of the research programme.

Figure 1 illustrates the overall project structure. It shows:

- the stages of strategy development which local authorities need to pursue (in the centre);
- Project A, which provides an integrative role for this whole programme;
- the two broad areas of research and, within them, the other six technical projects (B to G) and the two projects which are yet to be funded (to left and right);
- the four clusters (1 to 4);
- the horizontal task of coordination and dissemination.

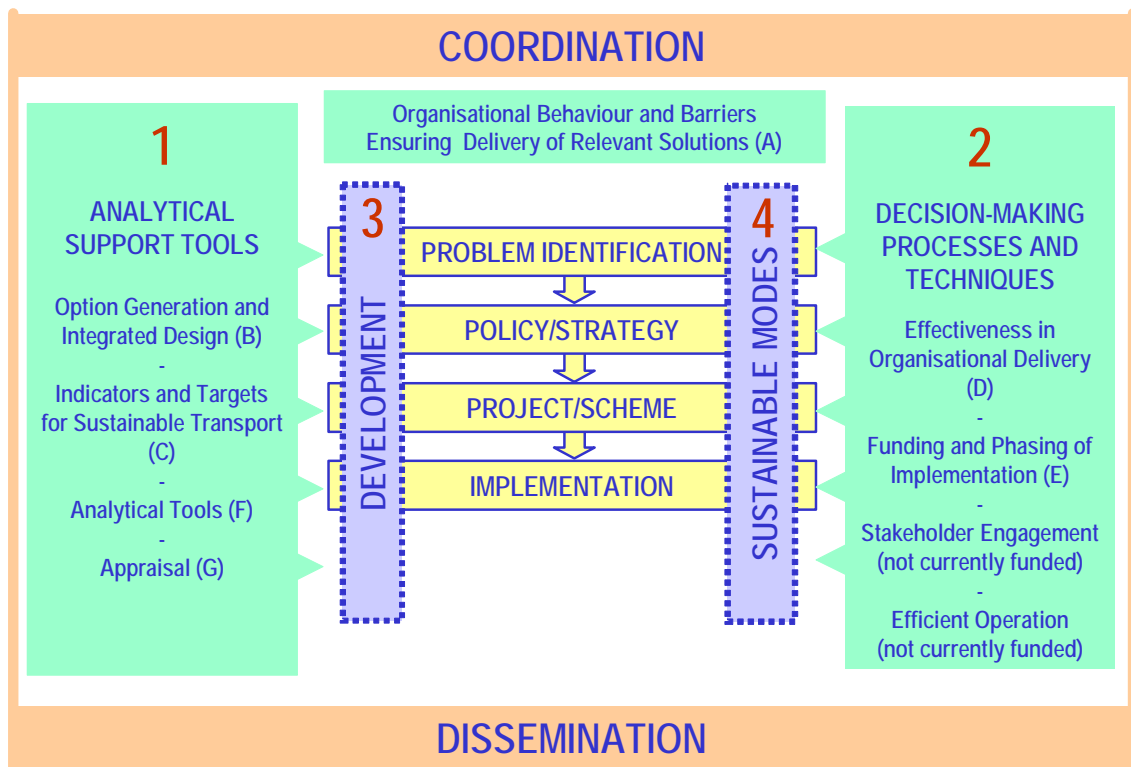


Figure 1: DISTILLATE Scope and Content

Key:

1, 2, 3, 4: Clusters

A, B, C, D, E, F, G: Projects

Figure 2 illustrates the interaction, within the programme between Project A, the other six technical projects (B to G), and the horizontal task of coordination and dissemination.

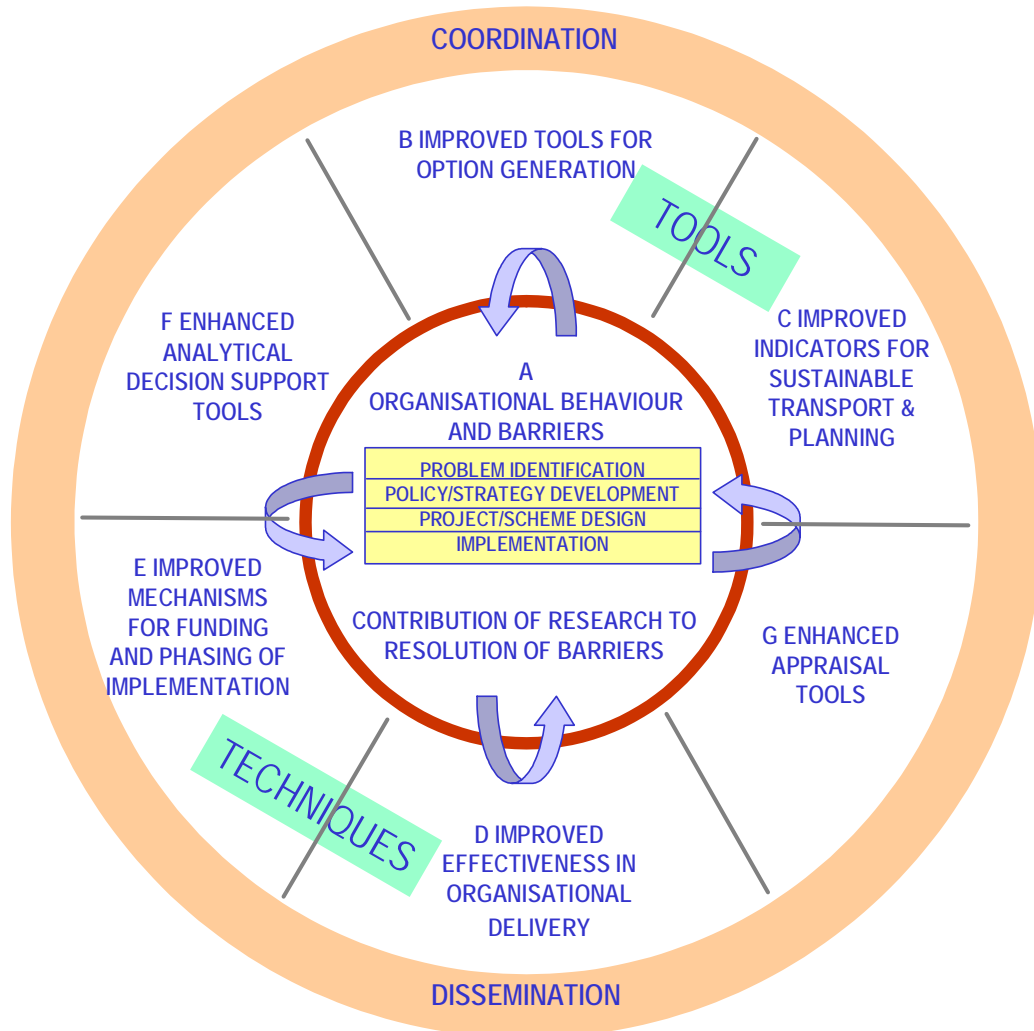


Figure 2: DISTILLATE Projects

2.5 Research tasks and projects

This section outlines the objectives of each of the seven technical projects, relating them to the programme sub-objectives listed above. Each is described more fully in Section 3.

Project A (Organisational Behaviour and Barriers) produces a conceptual map of the problems and issues affecting the delivery of integrated and sustainable transport and land use solutions (sub-objective 1), and provides the central integrative core of the whole research project.

Project B (Improved Tools for Option Generation) develops option generation tools, which will improve the quality of transport/land use strategies and schemes by enhancing the range, innovation and quality of the options input to the forecasting and appraisal procedures (sub-objective 2).

Project C (Improved Indicators for Sustainable Transport & Planning) establishes an effective set of core indicators that is able to encapsulate the concerns of various stakeholder groups, to be transparent and measurable, and to take due account of links with forecasting and appraisal (sub-objective 3).

Project D (Improved Effectiveness in Organisational Delivery) develops ways of overcoming institutional barriers to the effective development and delivery of strategies (sub-objective 4).

Project E (Improved Mechanisms for Funding and Phasing of Implementation) seeks to develop improved methods for dealing with different funding regimes that could affect successful implementation and to suggest how phasing of implementation should be handled at the planning stage (sub-objective 5).

Project F (Enhanced Analytical Decision Support Tools) enhances existing predictive transport and land use models so that they can be used more effectively and intensively by local authorities and other stakeholders (sub-objective 6).

Project G (Enhanced Appraisal Tools) explores improvements in appraisal methods to reflect more effectively the requirements of sustainability (sub-objective 7).

3 The Research Projects

3.1 *Project A: Organisational Behaviour and Barriers*

Lead Institution: UWE

The objective of this project is to map out the problems and issues affecting the delivery of integrated and sustainable transport and land use solutions and provide the central integrative core of the whole research project. The main objective of this project is therefore the collection of data from our case study cities that will be used by all the other research projects. The data will be collected through questionnaire surveys following the advice from our cluster groups and other investigators. Data collection will be repeated in years 2 and 4.

3.1.1 Research Objectives

To identify the perceived problems and issues affecting the delivery of integrated and sustainable transport and land use solutions, and to provide analysis and feedback that will form the central integrative core of the whole DISTILLATE programme. Information will be collected on each of the five key stages (except operation) identified in Figure 1. This information will be procured through the questionnaire surveys and focus group work with the Local Authority clusters. In particular, this theme will:

- Collect specific data required as inputs to the other research themes. This will include data on:
 - organisational structures and internal processes,
 - the process of engagement and interaction with external stakeholders,
 - the barriers, practices and processes in problem identification, strategy development, scheme design, implementation and monitoring,
 - the current use of policy instruments and appraisal techniques.
- Perform an important feedback function as the project progresses ensuring that the outputs of Projects B to G are effectively addressing the relevant barriers to the processes identified at the start of the project.

3.1.2 Research Tasks

Task A1: Initial survey

Data collection will be carried out using documentary analysis and a questionnaire survey. In particular, the initial questionnaire survey task will have the following stages:

- survey and analysis of a number of recent questionnaire surveys on transport policy processes in local authorities for content and format,
- collection of case study organograms and detailed analysis of the organisational structures of a sample of case study local authorities, supplemented by interviews as required,

- generation of questions on organisational issues and collation of questions from the other research themes,
- selection and refinement of relevant and appropriate questions after consultations among the Principal Investigators and the Local Authority Cluster Groups,
- structuring and testing of the draft questionnaire with research colleagues,
- testing and refinement of the design format for the questionnaire and pilot of the draft with a small number of case study cities,
- questionnaire run and follow-up to ensure high completion rate,
- data input into SPSS and data summary,
- more detailed data analysis on organisational behaviour and barriers.

Tasks A2,A3: Subsequent surveys

Further data collection will be carried out in years 2 and 4. The aims of these re-surveys will be to assess and account for what has changed. We consider at this stage that it would be more valuable to undertake these re-surveys through a series of interviews with key informants in the case study local authorities. The stages of design, testing, implementation and analysis will be carried out as in the A.1 data collection.

3.1.3 Role of Case Studies

All the case study local authorities will be surveyed. Depending on the complexity of their organogram we would expect 5-10 officers in each local authority to complete the survey. In answering the questions we would expect local authority officers to draw examples from the case studies as listed at Annex 1.

3.1.4 Outputs

There will two principal outputs:

- raw and analysed data on processes and problems in years 1, 2 and 4 as input to the other research themes
- a written report on organisational structures and processes in our case study cities using the ‘supersites’ to provide deeper analysis.

3.1.5 Linkages with Other Projects

The results of the initial Project A survey questionnaire will feed into Projects B to G. Later Project A surveys (in years 2 and 4) will review any changes in local authority practice that have come about as the result of the research and again feed into the other projects.

During the life of the project we will be collaborating with the VIVACITY 2020 team who are analysing “urban planning, design and consultation processes to identify when and how key decisions related to urban sustainability are made. Research will capture stakeholders’ requirements, identify relevant technologies and consider future scenarios for urban development. Urban design decision-making processes will be mapped, and a specification formulated for the development of decision-making support tools and resources to enable widened stakeholder participation.”

We are already in contact with VIVACITY researchers and our research in Task A1, in particular, will feed into the approach they take in 2005-2006 to analysing decision-making processes.

Over the duration of the DISTILLATE programme of research, we will share the information gained with the related EPSRC SUE projects FUTURES and SOLUTIONS, in addition to other EU projects like PLUME as and where appropriate.

3.1.6 Timetable

Task A1 commenced in April 2004 and will be completed by the end of 2004. Raw data and preliminary analysis will be available to Projects B-G in October 2004. There will be 3 months work on Task A2 commencing in autumn 2005 and a second period of 3 months on Task A3 starting summer 2007.

3.2 Project B: Improved Tools for Option Generation

Lead Institution: TSG

3.2.1 Research Objectives

This theme was identified during the DISTILLATE Scoping Study as a major gap in the current local authority armoury of techniques for developing sustainable transport policies, strategies and schemes.

Specifically, the objective of this theme is to develop option generation methods, which will enhance the range, innovation and quality of the options input to the forecasting and appraisal procedures, ensure the greater involvement of stakeholder groups in their formulation, and hence improve the quality of transport/land use strategies and schemes.

To fulfil this objective, this theme will:

- Identify current approaches to option generation in the transport and planning sectors, and weaknesses in those approaches;
- Develop and test new quantitative and qualitative tools for generating transport/land use options at both strategy and scheme levels;
- Ensure that the new tools meet the needs of practitioners; and
- Develop ways to increase stakeholder involvement in the generation of options.

3.2.2 Research Tasks

The research involves five, largely sequential, tasks, as follows:

Task B1: Review of local authority practices

As part of Task A1, information will be collected to identify the option generation methods currently used at strategic and scheme levels among local authorities and how these feed into planning and design processes. The ways in which options are developed and presented as part of stakeholder participation and consultation processes will also be identified. This will be followed-up with more detailed discussions among a sub-set of authorities based around particular case studies, to identify specific needs.

Task B2: Literature review

A broader and deeper analysis of the literature on option generation will be undertaken, building on the scoping study. This will involve a detailed examination of the algorithms and procedures used, and will extend beyond transport and land use planning to a wider range of disciplines, including business management and engineering design. It will also identify and examine the successful techniques used internationally to involve different stakeholder groups in the option generation process.

Task B3: Development of prototype tools

Drawing on the outputs of B1 and B2, this task will identify appropriate tools and develop prototypes covering:

- Option generation at the strategy level; and
- Option generation at the scheme/project level.

In the process, it will determine the best available techniques for stakeholder engagement (for example, based around the use of GIS-P), although it will not be possible to develop wholly new participation techniques.

Task B4: Applications of new option generation tools

Selected case studies will be used to apply and test these qualitative and quantitative option generation tools, which will range from quantitative algorithms, to knowledge-based systems and procedures to encourage increased participation in the option generation process. In total we will be seeking three sites covering examples of strategies and five cases of projects/schemes.

Task B5: Preparation of guidelines and their dissemination

The tools will be documented and guidelines produced for their wider use, drawing on the case study sites as examples. The local authority clusters will be used to obtain feedback on intermediate results and help to disseminate guidance on the improved approaches to option generation.

3.2.3 Role of Case Studies

All the case studies will contribute to our understanding of current approaches to option generation and related public engagement, in Task B1. The three ‘super sites’ will provide the opportunity to assess current approaches to option generation in greater detail, and will each contribute one or more sites as Project B case studies.

Provisional possibilities include:

- Bristol: integrated strategy; modelling; showcase bus routes.
- Merseytravel PTE: model development and option generation; objective one developments.
- Surrey: housing development and transport strategy; developing better techniques to enable LTPs to enhance the quality of life.

Other local authority partners that have expressed an interest in applying new option generation techniques include:

- Blackpool (walking strategy)
- Essex (integrated transport strategy for Chelmsford)
- Newcastle (superbus routes; cycling strategy)
- South Yorkshire PTE (Quality buses)
- Strathclyde (public transport option analysis)
- York (decision support for network management)

Other authorities in the Development and Sustainable Modes Clusters will offer comparator case studies.

3.2.4 Outputs

The main deliverable for practitioners will be a Good Practice Guideline, setting out advice on the kinds of option generation tools and stakeholder engagement procedures that are appropriate for different situations, with examples of their application. Appended to this will be the additional information needed to apply these tools, ranging from software to web links and detailed instructions.

Academic papers will be produced, covering the literature and local authority review, and a description and performance assessment of the different option generation tools produced in DISTILLATE.

3.2.5 Linkages with Other Projects

This project will provide inputs to the questionnaire being developed by Project A, and has explicit links with all other projects. Part of the indicator development (Project C) will be concerned with the needs of option generation; Project D will look at how institutional structures can assist or inhibit wide-ranging option generation; while looking at the impacts of financial regimes on the type of options to be generated will be addressed with Project E. Part of Project F is concerned with incorporating option generation into modelling tools, and there are close links between option generation and the needs for appraisal being addressed by Project G.

3.2.6 Timetable

Preparation for, administration and analysis of the relevant local authority survey questions (Task B1), will be completed in December 2004. The literature review (B2) will start in October 2004 and run to June 2005. The development of prototype tools (B3) will run from April 2005 to March 2006, followed immediately by a number of full-scale case study applications (B4), between April 2006 and June 2007. The last six months of the project (July 2007 to December 2007) will involve the preparation and dissemination of guidelines (B5).

3.3 Project C: Improved Indicators for Sustainable Transport & Planning

Lead Institution: ITS

3.3.1 Research Objectives

The overall objective of this project is to develop an effective set of core indicators that is able to reflect the objectives of the relevant stakeholder groups, to be transparent and measurable, to be capable of use in the setting of consistent targets, to be readily forecast, and to be used directly in appraisal.

To fulfil this objective, this project will:

- complement the scoping study review of indicators with a survey of local authorities' experience in measuring, predicting and using indicators;
- determine the extent to which current indicators correspond to stakeholders' understanding of sustainability and quality of life;
- specify the requirements for a core set of indicators at each stage in the decision-making process;
- identify a core set of outcome indicators that best meets those requirements;
- develop, as necessary, innovative means of measuring and predicting those indicators;
- test those indicators in application in a range of case studies; and
- ensure that the preferred set of indicators can be employed in other DISTILLATE projects.

3.3.2 Research Tasks

Task C1 – Indicator Audit

In conjunction with the survey in Project A, information will be collected on the indicators which are currently used, experience in their measurement and prediction, and difficulties arising in their use for target setting and appraisal. An audit of the current indicators will be undertaken to address issues of relevance, cost-effectiveness, ease of measurement, reliability, durability and statistical robustness. The lists of indicators identified in the scoping study will be used as a comparator for those in use, to identify gaps and duplications. This task will also ensure liaison with the modelling (Project F) and appraisal tools (Project G) to develop an understanding of which indicators are used where in the decision-making process.

Task C2 – Review of indicator use and draft specification

A review will be conducted from first principles and from comparison with experience in other sectors, of the need for indicators in problem identification, option generation, prediction of impacts, appraisal, monitoring, evaluation and stakeholder involvement in all of these processes. This will lead to a draft specification on which we will consult, and which we will test with our case studies and, where possible through other SUE projects, particularly within the transport cluster.

Task C3 – Generation of preferred list of indicators

The agreed specification from Task C2 will be used to assess those indicators from Task C1 that should be retained, those which should be discarded or modified, and those issues for which new indicators are needed. We will also make a first assessment of the ease with which these preferred indicators can be measured and predicted. We will test this recommended set of indicators with our case studies and with other SUE consortia.

Task C4 – Testing of methods for measuring new indicators

Where it is clear from Task C3 that preferred indicators are difficult to measure, we will investigate and, as resources permit, test new means of doing so. We anticipate that we will be able to draw, in this, on work in the FUTURES consortium on the use of ICT for data collection. Where it is clear that indicators are difficult to predict, we will add this requirement to the brief of Project F.

Task C5 – Use of core indicators and review of performance

Over the duration of the project, we will then encourage the use of our core set of indicators in all current case studies, and will review their performance and, as necessary, reconsider our recommendations, at the end of the project. A formal review process that is common across the partners and case studies will be developed to ensure consistency of approach and reporting. This task manages this process and will provide a rolling update to the good practice guide for indicators.

3.3.3 Role of Case Studies

All of the case study authorities within the consortium can contribute to Project C. The study relies on the collection of information about current practice and developing a working understanding of the benefits, limitations and gaps in indicator development that are currently perceived. Whilst all authorities can contribute to the project through the provision of basic information on current indicators in use, the laboratory sites of Bristol, Surrey, the Yorkshire and Humber Assembly and Essex will provide the basis for more detailed discussion and development of alternatives. It will be beneficial to the project if other case study sites contribute to the discussions on indicators and interest in this will be established early in the project.

The comparator sites of Strathclyde, Stockport, Bath, Newcastle, and West Yorkshire PTE will provide a useful context in which to test the development of indicators identified by the laboratory sites. In addition, it is the intention of the project that the indicators developed in Project C be used throughout DISTILLATE. Other laboratory sites should therefore consider the adoption of the outputs of this workpackage.

3.3.4 Outputs

Deliverable C1

The principal deliverable will be a core list of indicators which can be used at all stages of the decision-making process, and which are demonstrated as being of value to local authorities. This list will be a key input to work elsewhere in DISTILLATE, and in particular in Projects B, F and G. The deliverable will also provide guidance on good practice in their use, which will be of wider benefit to practitioners and

researchers internationally. This document will be a live document, benefiting from experience in the use of the indicators as the project develops.

Deliverable C2

The second deliverable will relate specifically to Task C4, and will specify ways in which selected indicators can be more effectively measured and predicted.

3.3.5 Linkages with Other Projects

Project C has an outward facing remit. The objective of the project is to produce a set of transparent, reliable, measurable and relevant indicators that are consistent across all stages of project design, development, delivery and review. It is the intention of the DISTILLATE consortium that the indicators developed in Project C are deployed throughout and, where possible, in other SUE projects. The success of this initiative relies on the provision of good quality information on the use of indicators in all aspects of transport policy design and delivery and this project therefore relies on inputs from all other projects. However, particularly strong linkages are required with Projects B (Improved tools for options generation), F (Enhanced analytical decision support tools) and G (Enhanced Appraisal Tools).

3.3.6 Timetable

The Indicator Audit (C1) will begin in October and be completed in January 2005 with the substantive review work completed by December 2004 and additional work drawing together these findings with the final survey outcomes. The review of indicator use and draft specification (C2) has begun and will be completed in time for review and distribution to all local authority partners prior to the April 2005 workshop which will review the specification. The Generation of the preferred list of indicators will run from April 2005 to June 2005 and then be made available to all projects. The timing of Task C4 is flexible depending on the progress of relevant case studies but it is anticipated that this will be completed by April 2007. Task C5 will begin in June 2005 and will run through to October 2007 in tandem with the case studies.

3.4 Project D: Improved Effectiveness in Organisational Delivery

Lead Institution: SEI

3.4.1 Research Objectives

The principal objective of this part of the DISTILLATE project is to aim to strengthen the ability of practitioners to overcome those barriers to effective development and delivery of sustainable transport and land use strategies which occur at the institutional level.

Thus, Project D will build directly upon the results of the initial part of Project A “Organisational Behaviour and Barriers”, developing further our knowledge on how internal organisational and inter-organisational mechanisms shape how actors decide upon strategies. It will do this by employing best management and other social science theories and applying them to real-case situations from our partners. The focus of Project D will be upon what can be done to foster more sustainable decision making processes and processes that lead towards more sustainable decisions being made. Consequently, while the centre of attention of Project A up until this point is the barriers, the focus of work in this Project is on the overcoming of the barriers; case studies will be of best practice in delivery rather than of most serious barriers.

When a better understanding is gained of good delivery solutions for more effective organisational management appropriate for the different professions involved in sustainable transport planning in a range of different contexts, Project D will ensure proper dissemination, first to partners and then more widely, having first tested their robustness with the appropriate DISTILLATE cluster groups.

3.4.2 Research Tasks

Task D1 Organisational linkages data review

In conjunction with Task A1, information will be collected on the key organisations that local authorities work with in developing sustainable transport and land use strategies, and ways in which this affects the planning, design and implementation process. In practice this Task is carried out alongside A1 and the personnel are the same. SEI will maintain links with other Project Managers to ensure that Project D aids the relevance and uptake of findings from other projects especially the two ‘tools’ projects F and G.

Task D2 Organisational management issues

This will be followed by in-depth semi-structured one-to-one interviews with a range of actors and participant observation in different settings to gain deeper understanding of (i) the values of key actors, the assumptions they hold, their organisational responsibilities, and the range of resources available to them, and (ii) the internal mechanisms and practices, actors’ interpretations of formal and informal ‘rules’ and their effect on decision making.

This can be done in one (or both) of two ways: it can be done 'in-house', as it were, by DISTILLATE personnel and a standard interview pro-forma may be devised following interrogation of the questionnaire results from Task A1. Alternatively, it may be possible for DISTILLATE personnel to carry out more in-depth 'participant observation' within contexts agreed with partners. This would allow a researcher to develop a better understanding of the 'internal culture' and drivers of actual behaviour. The strengths of the latter approach are off-set by its resource intensity and narrower focus. Nonetheless, it could provide a useful 'show case' of best practice.

Whichever method is employed, the analysis will assess the level of common understanding and explain behaviour within the 'action arena' using management and other behavioural science theories. This analysis will be checked with LA officers and with the appropriate city cluster groups.

Task D3 Tracking power and influence

If appropriate, this sub-task will take a project focus. An analysis of a selected project will identify and follow through the chain of events, involving various organisations, from problem identification, strategy development, project design and implementation, and track the (non-technical) use of models and tools to see who wields power and influence over their framing and use. The specific project examined will be agreed with the authority concerned but may include the Surrey housing expansion project, Bristol's 'Superbus' project or Merseyside's links with other organisations.

Task D4 Cluster review of organisational issues

The identification of organisational triggers for more sustainable and radical transport action garnered from best practice, from the literature, and from our own research experience within DISTILLATE will be tested, firstly against the analysis from the above sub-tasks and secondly, in our cluster groups.

Task D5 Dissemination of organisational issues

Development of the Good Practice Guidelines on communication, management and good governance to facilitate better cross-sectoral working. These will be disseminated via a dedicated web-site, CD-ROM, printed material and workshop presentations involving the city cluster groups and invited participants from DfT, LGA and IDeA.

This latter will be carried out in conjunction with the other Project Deliverables where and when appropriate and will take the form of a 'live document' most probably on the Virtual Knowledge Park website hosted by the University of Leeds.

3.4.3 Role of Case Studies

It is envisaged that Project D will work primarily in the three Supersites; and findings will be validated with the relevant cluster groups to obtain wider city involvement.

Agreement of partners is vital to the success of Project D, and, as it is not foreseen that substantive research will start until after Task A1 reports, the final selection of cases will not take place until late 2004.

Other authorities who might be interested in taking part in this Project are invited to make themselves known to DISTILLATE partners through the summer of 2004. Project D will, therefore, interact with as many of the case studies as are interested in making a contribution to this part of DISTILLATE (and vice versa) providing that resources can be found. There is, however, a preference for a focus on the super-site case studies; Merseytravel Objective One & organisational linkages has been agreed in principle as a leading laboratory case study. Interest has yet to be confirmed (from the local authority concerned) for the Surrey housing development and Bristol integrated strategy cases to be laboratory cases. Other case studies which could be laboratory case studies include: Blackpool's walking strategy; Strathclyde's option analysis; Newcastle's internal management; and/or Sheffield's city centre redevelopment and York's network management. Any of these cases, if not laboratory, may be comparator cases.

3.4.4 Outputs

The outputs from this project are listed above. They are: from Task D1, the raw data gathered from the Task A1 questionnaires, the inception of the literature review, and the development of links with the other DISTILLATE projects; and from Task D2 the deeper, grounded understanding of the organisational behaviour of our partner organisations and the continuation of the data and literature review focussing particularly on the successful overcoming of barriers. If followed, Task D3 will deliver a life history of a model in use. The outputs from each of the above listed will be a brief write-up for the DISTILLATE management group, Project managers and for our partners if appropriate.

Task D4 will complete the literature and data review and produce a consultation document detailing examples of overcoming barriers which can be checked with our partners and the appropriate DISTILLATE cluster group(s). The product of this consultation and any recommendations forthcoming will be published on the DISTILLATE web portal.

Task D5 will gather all of the above information into good practice guidelines which can be distributed as widely as possible. Task D5 will further seek to revisit the links with the other DISTILLATE Projects to seek synergies and added value by homogenising published guidelines and by aiding the relevance and institutional uptake of findings from other projects where possible.

3.4.5 Linkages with Other Projects

Project D will build upon Project A and attempt to develop further our knowledge on what internal mechanisms shape how actors decide upon strategies and what can be done to foster more sustainable decision making processes.

Project D will also link to Project B (Option Generation), Project E (Implementation), and, Projects F and G (Appraisal and Analysis) at the appropriate times throughout the DISTILLATE programme.

3.4.6 Timetable

Task D1 will start as soon as the Initial output from Task A1 is crystallised (late 2004). This task should take 4 to 6 months to complete. Task D2 can start as soon as outputs from D1 become clear. Tasks D2 and D3 can be carried out at any stage throughout Years 2 and 3. Access, personnel, and in some cases resourcing need to be agreed between project participants and partner contributors so exact start and finished dates cannot be set. Reports should be complete by the end of Year 3 where at all possible.

Task D4 will start as soon as there is viable data to bring to the clusters (probably late 2005) and Task D5 will need to have delivered reports by the end of year 4.

3.5 Project E: Improved Mechanisms for Funding and Phasing of Implementation.

Lead Institution: TRL

3.5.1 Research Objectives

This task is concerned with the influence of different models for funding and decisions about phasing on the planning, design and delivery of strategies and schemes. The private sector is providing an increasing source of funding for a wide range of schemes from light rail construction to school bus networks, yet the scoping study has demonstrated that there is little evidence of how this might be influencing priorities, selection of designs and the phasing of implementation. Is it making it more difficult to achieve sustainable outputs and outcomes? For example, private sector funding may influence the route of a proposed new road, and the timing of scheme implementation, in a way that does not maximise community benefits. In addition, it is rarely the case that integrated projects can be implemented so that all elements of it are in place and operational at the same time. The phasing inherent in construction and implementation (whatever the planned phasing of projects), and may affect the operational availability of measures, affect the financial performance of the project, the attitude of stakeholders and users and the actual impacts of the package. Sequencing of package measures over a significant timescale runs the risk that later elements of the package may fail through lack of finance or changing stakeholder acceptance - and thus only partial solutions are implemented. This leads to the question as to whether any adverse consequences on the urban system can be minimised. The scoping study has shown however that existing literature focuses on the guidance, consultation, appraisal and procurement of projects, but neglects to explore how schemes are actually designed, altered, improved and redrafted in practice. It is known that whole life costing of transport schemes and projects has importance effects for the operational performance and financing of the scheme, but it is unknown if the process has any effects during the design and planning stages, causing alterations to occur.

The overall objective of this task is therefore to provide guidance for local authorities that will enable them to address at the project planning stage the implications of different funding strategies and contractual arrangements and the ways by which implementation may be phased, in order to achieve a more effective delivery of sustainable transport and land use schemes. To fulfil this objective, the work will involve four, largely sequential, tasks:

- Build on the work of the scoping study, through exploring practice within our case studies.
- Understand the funding procedures which affect transport and land use projects and how these procedures affect project implementation, and to develop improved methods for dealing with different funding strategies.
- Understand how the phasing of implementation may affect the projects outcomes, and to suggest how phasing should be handled at the planning stages.

- Produce a manual of Good Practice encapsulating these findings and the resulting recommendations.

3.5.2 Research Tasks

This work will initially draw on Project A, then conduct interviews with key private sector players and carry out additional case study investigations; it will seek to identify any distorting effects and how these can be assessed and minimised using an appropriate methodology in the selected case studies. Findings will be published in the form of Good Practice guidance. Key tasks are:

Task E1 Identify mechanisms

As part of an enhancement to Project A, information will be collected from actors in the case studies to identify funding mechanisms used for projects and how implementation was sequenced. This will take as its starting point the information collected from the literature during the scoping study.

Task E2 In depth examination

Detailed examination with individual local authority actors through focus groups on (a) financial and (b) implementation regimes used, and their impact on scheme performance. A key element of this task will establish the range of financial methods used in practice, how they are chosen and the extent to which their impact on implementation is taken into account at the planning stage. Where relevant, users' views of the outcomes will be considered. A framework of analysis will be developed to enable comparative analysis of different funding and implementation regimes and how these regimes affect project outcomes.

Task E3 Validation of findings

Validation of the findings from E1 and E2 through feedback to the 'Development' and 'Sustainable modes' clusters. The findings will be amended on the basis of this verification exercise. Recommendations will be established incorporating the outcomes.

Task E4 Development of toolkit

In close association with our case studies, production of a toolkit for local authorities addressing effective delivery of transport and land-use projects. Given the limited number of DISTILLATE case studies available a selection of different types of case study is essential in order to produce a toolkit that accurately reflects required practice. This limitation will need to be considered when finalising the toolkit to ensure that it is a representative and useful tool.

Task E5 Testing the Toolkit

The toolkit will be tested on as many of the case studies as appropriate given the stage which they have reached in implementation.

3.5.3 Role of Case Studies

It is intended that a selection of up to eight laboratory case studies (including the supersites) will be used. The other case studies in the Development and Sustainable Modes cluster will be used as comparators. The case studies range from large-scale housing developments through to smaller-scale soft measures in order to provide an

insight into the delivery of different project types. The following laboratory case studies are identified:

- Bristol - Showcase Bus Routes
- Merseytravel - Objective One
- Surrey - Housing development
- Essex - Chelmsford Integrated Transport Strategy
- Sheffield- City Centre Development
- Sheffield - M1 Redevelopment
- Newcastle - Cycling strategy, or Blackpool - Walking Strategy
- South Yorkshire - Quality Routes, or Strathclyde – Rail

3.5.4 Outputs

A toolkit for local authorities addressing effective delivery of transport and land-use projects.

3.5.5 Linkages with Other Projects

Task E1 clearly links with Project A. The final findings will link with, in particular, Project B and Project D. If the conclusions require a need to incorporate more elements into decision support tools, the findings will be important for Project F.

3.5.6 Timetable

The initial case study information collected in Task E1 will proceed as part of Task A1, while the other elements (from literature, etc) will proceed in parallel. The main part of the work will commence with Task E2 in month 6 with Tasks E3 and E4 proceeding sequentially thereafter. It is intended to provide initial results in year three as inputs to Projects B, D and F, and subsequently test and update the toolkit during the remaining 12 months against the relevant case studies.

3.6 Project F: Enhanced analytical decision support tools

Lead institution: ITS

3.6.1 Research Objectives

Research for the Department for Transport and for the EC and our own scoping study discussions have indicated that a substantial proportion of local authorities do not use models for strategy formulation or scheme design and appraisal, and that others who do are doubtful of the value of the models which they use. These situations arise for a number of reasons: most models are unable to reflect the range of policy instruments which local authorities now use; model predictions often appear unreliable; models are often too complex for local authority staff and stakeholders to use themselves; and as a result models are typically run by consultants and treated as black boxes by local authorities. Project B will be developing new approaches to strategy generation and scheme design; Project D will look at how models are used (and misused) in the planning process, and this project will build on this to identify ways of increasing the beneficial use of currently available models. In this project we intend to develop low cost enhancements to existing models to build on the work of Projects B and D. We will focus on three themes: the lack of coverage of policy instruments, the need to enable a wider and more effective use of models and the need for enhanced strategy [and scheme?] generation tools.

The overall objective of this project is to enhance existing predictive transport and land use models so that they can be used more effectively and intensively by local authorities and other stakeholders. Within this overall objective, the project has the following more specific sub-objectives to:

- Identify those policy instruments which could most usefully be incorporated into existing models and to develop and test ways of doing so
- Enhance existing sketch planning models so that they can be used more effectively and interactively by a wider range of stakeholders
- Develop our sketch planning models and network management design tools as pilot strategy and scheme generation tools.

3.6.2 Research Tasks

This research will be founded on two areas of research: the development of demand and supply modelling in transport and land use over the last 40 years, and the more recent research into the behaviour of organisations in the use of information systems. The former is being reviewed and extended as part of the Platform Grant; the latter is covered in Projects A and D. The project will also maintain strong links with Project B on option generation, Project C for possible new indicators and Project G for possible revised appraisal approaches.

Task F.1: Links to Project A

In this Task we will build on the work of Project A to obtain additional information from our local authority partners, and others such as DfT, to provide background for the three sub-objectives. We will seek guidance on the types of policy instrument

which would most usefully be incorporated into predictive models, and other model enhancements which could be considered at the same time. We will draw directly on the Project A survey of needs for option generation as input to the third sub-objective.

Task F.2: Information on impacts of policy instruments

Having identified the policy instruments which merit inclusion, we will collate the information available on their impacts on demand and supply, and ensure that this information is incorporated into our knowledgebase on transport policy instruments, KonSULT. This will predominantly involve literature review, but it may also be possible to collate existing data from current case studies, including those within our clusters. The information in KonSULT will be made widely available to local authorities, so that those without models can use it directly for guidance. The case studies will be defined in response to the surveys in Project A.

Task F.3: Representation in models

We will take the evidence from Task F.2 on the demand and supply responses and develop (i) a theoretical or possible modelling approach which will be made public, (ii) test in an appropriate model (selected from our own models STM, MARS, TPM, SATURN and STEER), and calibrate those changes against the data available from Task F.2. Finally we will present the results of (i) and (ii) to local authorities and consultants and consider jointly possibilities for implementation in other models.

Task F.4: Enhanced sketch planning models

In this Task we will enhance our current sketch planning models, TPM and MARS, to reflect the needs of our consultees as identified in Task F.1. The work involved will depend on the nature of these needs. Those involving new policy instruments will have been covered in Task F.3; those which require disaggregation of existing representations will require a similar approach of information gathering, model enhancement and testing; those involving enhancements to indicators and appraisal mechanisms will draw on the results of Projects C and G, and will be developed and tested interactively with end users. As an initial step MARS is to be migrated to VENSIM which is a software platform for developing dynamic models. VENSIM will allow us to display all causal loops included in the model and to conduct sensitivity tests to model parameters. This development addresses some of Simmonds' suggestions that models should display all causal processes and test robustness of results against parameter variations. It should also increase understanding of how the model works when presented to decision-makers and aid the discussions when developing representation of new instruments.

Task F.5: Strategy and scheme generation tools

In this Task we will develop one or more models as strategy and scheme generation tools, building on the concepts developed in Project B. The final choice of models which we will adapt will depend on the requirements generated by Project B; however provisionally we expect to test techniques at both ends of the complexity scale: our sketch planning models and our network design tools. We envisage an approach in which objectives are specified and problems identified, as for the conventional application to model a "do-minimum" strategy, the information in knowledgebases such as KonSULT is used to suggest policy instruments which might be adopted, and an optimisation routine is used to specify the way in which each policy instrument

might be applied. These results would then be fed back to the designer or stakeholder group, who could intervene to suggest, or request, other options.

Task F.6: Testing and dissemination

In this Task we will present the results of Tasks F.3, F.4 and F.5 to our local authority partners, and test them in the course of the most appropriate case studies. Where necessary we will feed back comments and criticisms to the earlier tasks, so that further enhancements can be made within the resources available. We will also disseminate our results more widely, and exploit them through the bodies responsible for marketing the existing versions of the models which we modify.

3.6.3 Role of Case Studies

This Project will work closely with the case studies in Cluster 1, and in particular with the models being developed in Nottingham, Stockport, Strathclyde (STM) and York (STEER). The case studies in Merseyside, Surrey and Newcastle will be used as comparators. The role of these case studies will be to provide detailed information on possible modelling issues including, LA requirements and the use of data if available. In addition we envisage some new model development case studies for Leeds (SATURN, STM and MARS) and Bristol (TPM). For Leeds we will be able to look at modelling needs at different levels of decision-making i.e. (local, metropolitan and regional levels).

3.6.4 Outputs

The key outputs of this Project will be:

- i. enhanced models able to represent a wider range of policy instruments;
- ii. enhanced sketch planning models able to meet the needs of local authorities and others stakeholders more effectively;
- iii. an experimental strategy generation tool capable of developing strategies which achieve improved performance against policy objectives.

3.6.5 Linkages with Other Projects

Project F interacts with all other projects within DISTILLATE. Project A will provide the initial policy requirements in terms of modelling from the local authorities. Project B will link option generation tools with modelling tools where appropriate. Project C will define any new requirements for indicators. Project D will help set the research priorities for model use in the initial stage and check that the enhancements to tools are useful to local authorities in the later stages. Project E will feed in any new requirements for modelling of funding regimes. Project G will provide any revisions to appraisal mechanisms required for modelling of new instruments and slow modes.

3.6.6 Timetable

The first task F1 will be to follow up the project A survey with a series of in-depth interviews with selected case studies to discuss further the needs for modelling new instruments. This will take place during September-November 2004. Task F2 will

then review evidence on the new instruments selected (prioritised by project D) and report by March 2005. Task F3 will finalise theoretical models and implement new instruments within appropriate tools by March 2006. Task F4 will provide any other enhancements required and as such requires inputs from projects C, E and G in 2005. Task F5 is to demonstrate the use of option generation tools and as such requires inputs from project B by March 2006. Task F6 begins in April 2006 and will be used to demonstrate enhancements made to tools which will be selected in discussion with other projects. This task runs for two years and will therefore allow for an iterative process of further developments if managed carefully – however most of the developments should take place in Tasks F3 and F4.

3.7 Project G: Enhanced Appraisal Tools

Lead institution: ITS

3.7.1 Research Objectives

During the course of the scoping study it became clear that local authorities have a number of reservations about current appraisal methodologies and practice. An underlying subtext was that the way appraisal is used might be different from its theoretical role as an 'objective' measure of the value of a project. Their concerns crystallised into three different areas:

- Concern about the importance of journey time savings in appraisal and whether the emphasis on these is justified;
- The difficulty of appraising small schemes (particularly walking and cycling schemes) and behavioural and attitudinal measures;
- The lack of detail in current appraisal techniques on the distribution of impacts across different groups.

Current formal appraisal methodologies are heavily influenced by journey time savings, but the benefits accruing from such savings are often only of limited duration and may not therefore be capable of indicating whether the scheme achieves longer term (sustainability) objectives. It has been known for some time that, in certain circumstances, journey time savings can be eroded by induced traffic. One mechanism for this could be that lifestyle change, facilitated by, say, a successful scheme to increase road capacity, leads to changes in travel patterns which run counter to sustainability aims. As well as determining how best appraisal methodologies could take this effect into account, the project will also consider whether they could be broadened and re-weighted to take account of wider quality of life indicators. Local authorities felt that the problem was particularly relevant for public transport projects which often do not score highly relative to road schemes under current appraisal methodologies partly because the emphasis on value of time and travel time savings gives undue weight to benefits for car users.

Small schemes (such as walking and cycling schemes) are not easy to appraise and are often overlooked as a result of this. An appraisal on the same scale as that carried out for, say, a new road scheme would be difficult to justify on cost grounds, so what is required is a quicker, easier methodology which adequately enables calculation of the benefits of such schemes (either individually or in groups), so that they can be compared with other competing schemes. Current appraisal methodologies are also inadequate to assess the full range of attitudinal and behavioural measures which are now emerging as an important part of local authorities' transport policies. These include walking buses, policies for encouraging voluntary travel behaviour change and the kinds of promotion and publicity activities that are now an established part of a local authority's transport planning activity. For these smaller schemes and initiatives it is important that the wider benefits – health, environment, safety etc – are fully represented, since, as above, the time savings will otherwise be pre-eminent.

While appraisal methods can indicate whether a scheme is worth pursuing, current methodologies tell us little about how the benefits and costs are spread among different groups within society. This information is an emerging concern with the recent emphasis on social exclusion and transport and there is significant current research interest in accessibility. This project will build on this work by studying how greater attention can be given to the spatial and social distribution effects of transport schemes and policies.

The overall objective is to develop improvements in appraisal methods to reflect more effectively the requirements of sustainability. There are three main sub-objectives:

- To investigate the ways in which the value of time is used in the appraisal of local transport schemes, whether this is appropriate given current sustainability objectives, and how best to reflect additional quality of life indicators specified in Project C.
- To develop methodologies for appraising small schemes and attitudinal and behavioural measures.
- To develop ways of representing and giving greater prominence to the distributional effects of transport policy instruments and strategies.

Each of these sub-objectives will also involve considering appraisal in its political context and exploring the subjectivities around appraisal's theoretical role as an 'objective' measure of the value of a project. They will thus investigate the differences between theory and practice in the local authority context.

3.7.2 Research Tasks

The work will explore the enhancement of appraisal techniques. This will involve looking at how these techniques are currently used and how (and whether) they could be improved so that they are more appropriate for achieving the objectives that local authorities have in developing sustainable transport and land use policies. An important input for this work will be the development of improved indicators being carried out in Project C. One focus for investigation will be the ways in which the value of travel time is used in the appraisal of local transport schemes and whether this is appropriate given current sustainability objectives. The main research activity of this proposal will take place in Tasks G3, 4 and 5, which relate to the three sub-objectives above. These tasks will run in parallel, since they cover different aspects of appraisal and can, to some extent, be independent of each other. Task G2 will precede these tasks to provide a common formative stage leading up to Workshop 2. Tasks G3, G4 and G5 need to be performed with a consistency of approach and the results will need to be brought together to enable recommendations to be drawn – this is the purpose of Task G6.

Task G1: Link to Project A

This task will provide input to Project A to ensure that information relevant to this project is included in the surveys to be carried out as part of task A1. It will also build on this work to provide extra background information from local authority partners and the DfT on the three areas identified.

Task G2: Common stage and establishment of links

This task provides a common formative stage for the exploration of appraisal methodologies and feeds into Workshop 2. It also provides a link with Project C. The development of the indicators as part of Project C will be important to this project and the set of outcome indicators that emerge will also be an important input to the proposed consideration of appraisal methodologies. This task also provides a link with Project B as appraisal could provide an input to option generation and this task therefore feeds into task B3. In addition, this task provides a link with Project F, this will require input to task F4.

Task G3: Broadening the scope of appraisal

This task will involve studying the way that appraisal methodologies currently work, especially in the local authority context. This will involve interviews with practitioners through the relevant case studies. Past appraisals will also be examined to explore the way appraisal is carried out and its role in real life decision making. The focus will be on the dominance of travel time savings in appraisal and to what extent this dominance gives rise to solutions that conflict with sustainability objectives; the political context of the way appraisal is used in practice will also be studied. The task will develop ways of broadening the approach to appraisal to include other quality of life indicators and will test those methods in case studies and develop recommendations. This task has links to project B as certain options can make new demands on appraisal. In particular, this task will receive inputs from task B3 on the relevant ways in which option generation affects the scope of appraisal.

Task G4: Appraising small schemes and attitudinal and behavioural measures

This task will study the ways in which the full range of costs and benefits of small schemes can be properly assessed, perhaps with the use of more streamlined appraisal methodologies which take into account the different range of impacts which might result from these schemes and the methods by which they might be predicted. This task will also look at the appraisal of attitudinal and behavioural measures, which are often also relatively inexpensive, but which might have a different range of impacts from a traditional engineering scheme. The task will involve desk based work establishing a framework for appraisal, in conjunction with discussion with case study local authorities to explore the possible needs of real life situations. The approach proposed as a result of these investigations will be tested in case study locations to establish whether it is practical and cost effective. There will also be discussions with the DfT to check that suggestions would be appropriate for local authorities to use to justify schemes in their Local Transport Plans. This task has links to project B as certain options can make new demands on appraisal. In particular, this task will receive inputs from task B3 on the relevant ways in which small schemes and new measures might require consideration at the level of option generation.

Task G5: Distributional effects

This will involve identifying ways in which the impacts of schemes on different groups within society can be evaluated and represented within appraisals, both socially and spatially. Some of the most obvious ways of differentiating affected groups are geographical, so the use of GIS will be important, but other disaggregations will also be studied (e.g. car ownership, gender, income). Given the current emphasis on developing accessibility planning techniques to assist in dealing with the problems of social exclusion and transport, one starting point will be to see how the outputs from these exercises can best be incorporated into formal appraisal. This task will also

draw upon data sources such as the new census data and the wealth of information being developed at ward and enumeration district level on deprivation and other indices (much of it available freely over the internet). Examples of transport schemes will be sought from local authority partners and evaluated according to how different groups within society have been or might be affected. The results of such analysis are liable to be politically sensitive and therefore a high degree of discretion will be required in liaising with local authority partners. This task has links to project B as certain options can make new demands on appraisal. In particular, this task will receive inputs from task B3 on the relevant ways in which distributional effects might require consideration at the level of option generation.

Task G6: Coordination

While tasks G3, G4 and G5 are to some extent independent, the strands of the research will need to be brought together and the links between them exploited. It will be important to ensure that the results are mutually consistent and will provide a platform for recommendations on future possible approaches to appraisal. This task will feed into Workshop 5. This task will also include the dissemination of the expected outputs of the project (see below).

3.7.3 Role of Case Studies

Case studies will be used for two distinct purposes, to explore the issues raised by the project and also to try out possible new techniques developed as a result. Initially, it is suggested that the following case studies should be used to explore the issues:

Nottingham	Modelling workplace parking levy
Nottingham	Modelling soft policies
Nottingham	NATA applications for sustainable transport projects
Bath	Conflicts between heritage and sustainable transport
Sheffield	Redevelopment of Sheffield city centre
Newcastle	Cycling strategy
Blackpool	Walking strategy

The following offer a wide range of potential types of scheme on which to test the newly developed approaches:

Bristol	Modelling
Strathclyde	Public transport option analysis through transport and land use models
Sheffield	Redevelopment and the M1
Bath	Western Riverside Development
Essex	Integrated transport strategy for Chelmsford
West Yorkshire PTE	Extension of strategic high quality rapid public transport in West Yorkshire

It is likely to be more beneficial to concentrate on a few case studies and the decisions over which to pursue will be taken in tasks G1 and G2, once the results from the surveys undertaken as part of Project A have been considered.

3.7.4 Outputs

These will include:

- A report on the role of appraisal in decision making in local authorities, including the treatment of travel time savings, and proposals for alternative approaches.
- Proposals and recommendations for simple appraisal techniques for small schemes and behavioural and attitudinal measures.
- A report on the appraisal of the distributional effects of transport measures, including the results from some case studies, with recommendations for ways in which decision-makers should approach the issue.

3.7.5 Linkages with Other Projects

Task G1 has links with task A1 in order to provide input to the development of the initial survey and help to analyse the results, seeking further information where this is required. In a similar way, there are links with task A2 (G3, G4, G5) and A3 (G6). There are links with project B - task G2 will link with task B3 which is to do with developing prototype tools for option generation. The links with project C will be between tasks G2 and C3 which will involve liaising on the preferred list of indicators. Task G3 which is taking a wider look at the scope of appraisal, has links with tasks D2, D3 and D4. Task G4 has links with task F3 on the modelling of new instruments and task G5 has links with task F4 if the development of the sketch planning models includes consideration of the distributional effects.

3.7.6 Timetable

Task G1 starts at the beginning of the project and continues until the end of 2004. Task G2 starts at the beginning of Q4 in 2004 and finishes at the end of Q2 2005. Tasks G3, G4, and G5 start at this time and continue until the end of Q1 2007. Task G6 starts as these tasks end and ends at the end of 2007.

4 The Work Plan

4.1 Gantt Chart

The project Gantt Chart is shown below. Note that everything is timetabled to be completed by late 2007, to allow three months for writing up.

In addition to showing the timing of each of the tasks, the GANTT chart identifies the principal linkages between them. The majority of these take place at fixed times in the programme, and will be resolved in team meetings involving the relevant projects. In chronological order, they are:

- June 2004: inputs from all projects to Project A questionnaire
- October 2004: outputs from questionnaire to all projects
- December 2004: final review of questionnaire results; confirmation of detailed plans for other projects; to be discussed in first programme workshop
- June 2005: proposals for indicators (Task C3); interactions between Tasks B2, B3 and Task F3; inputs from all projects to C3; inputs from all projects to Task A2; all to be discussed at second programme workshop
- December 2005: interactions between Tasks E3, F4, G3, G4 and G5
- March 2006: results of second Project A questionnaire; interactions between Tasks B3, B4 and F5; interactions between Tasks E3, D3, D4 and F4; all to be discussed at third programme workshop
- December 2006: review of results from Tasks B4, D2, D3, D4, E3, F3, G4 for testing in case studies
- March 2007: initial results of testing from all projects; input from all projects to Task A3; discussion in fourth programme workshop
- December 2007: results from all final tasks; presentation in final workshop.

4.2 Workshops

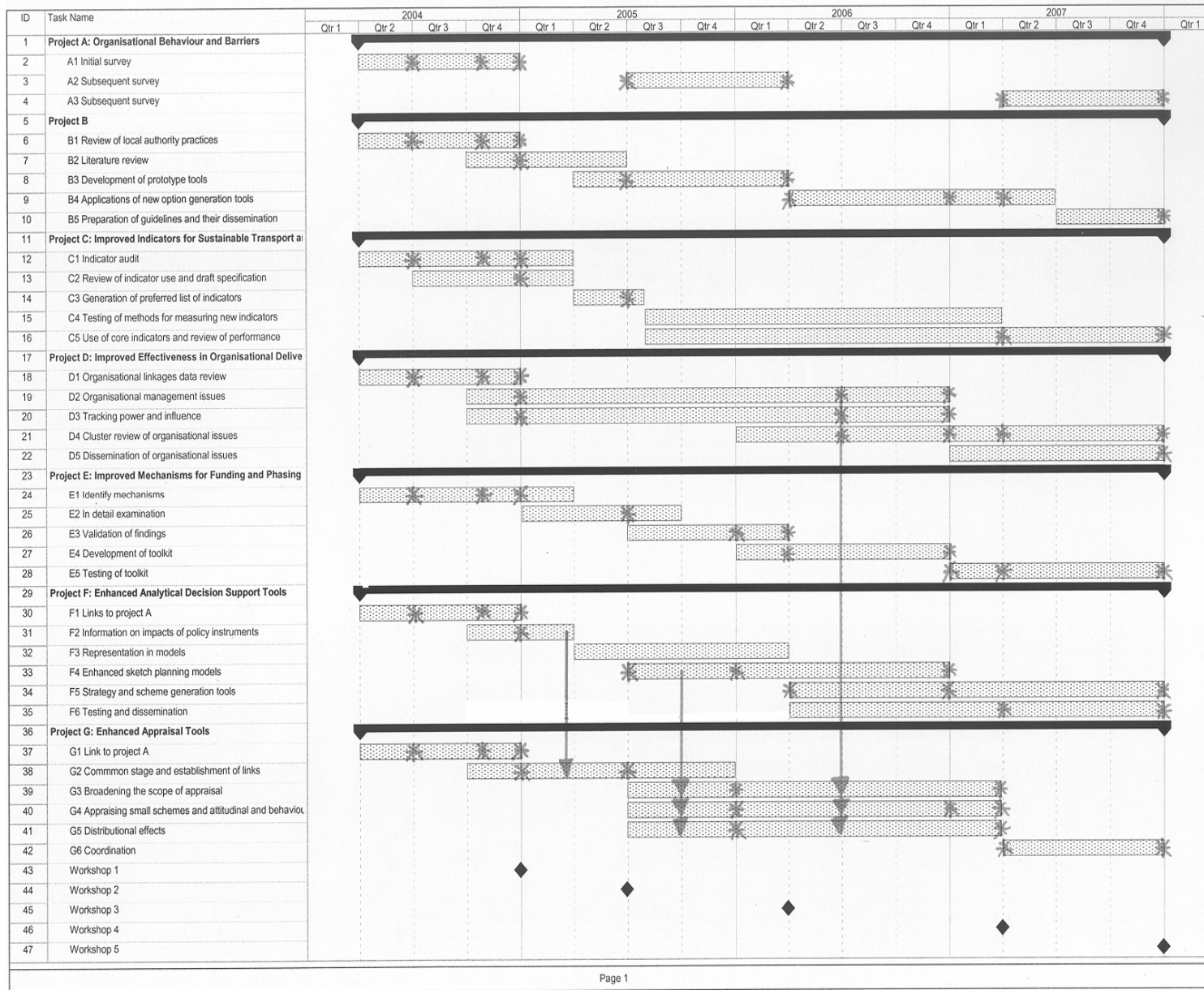
The GANTT chart shows the programme's five planned workshops, which are described more fully in Section 6.2.

4.3 Deliverables

The principal deliverables from the projects will be:

- A1 Report on the organisational structures, processes and barriers in the case study cities
- A2 Review of barriers in the case study cities:2006
- A3 Review of barriers in the case study cities:2008
- B1 Good practice guidelines on the kinds of option generation tools and stakeholder engagement procedures

- C1 Core list of indicators of value to local authorities
- C2 Report on the measurement and prediction of indicators
- D1 Consultation document on overcoming barriers
- D2 Good practice guidelines on communication, management and good governance to facilitate better cross-sectoral working
- E1 A toolkit for local authorities addressing effective delivery of transport and land-use projects
- F1 Enhanced representation of policy instruments
- F2 Improved sketch planning model
- F3 Option generation facility
- G1 Report on the role of appraisal in decision making in local authorities
- G2 Proposals and recommendations for simple appraisal techniques for small schemes and behavioural and attitudinal measures
- G3 Report on the appraisal of the distributional effects of transport measures



5 The Role of the Local Authorities

5.1 *Local Authority Involvement*

We see the role of the local authority partners as contributing from their practical expertise to the formulation, focussing and direction of research and helping develop the outputs and tools from research by applying them in the case studies and other relevant projects.

The main benefits to the local authority partners will come from the detailed study and analysis of the practical problems they face, which may not resolve all the issues but which will assist them to find practical solutions. The project will also give them the opportunity to study some of the issues in greater depth themselves and to work with other authorities to develop and spread best practice. Thus enabling them to facilitate change and introduce improved processes and procedures.

As indicated in Section 2 we have identified, with our 16 local authority partners, some 35 case studies that could usefully illustrate and inform our research. Three of our local authorities have offered case studies which cover all of the key stages in strategy development and offer projects and processes that will be current throughout the four years of our research programme. Those local authority partners are referred to as “super sites”. They are Bristol City Council, Surrey County Council and Merseytravel.

With the encouragement of the local authorities, we have grouped the case studies into four clusters, which will be managed by the local authorities themselves, and will provide an opportunity for the members of a cluster to learn from one another, as well as from our research. The clusters will also be a research resource for the project team to learn from practical experience. Two of the clusters map directly onto our two broad areas of research; (analytical support tools and decision making processes), the other two apply that research to two main areas of policy in which the local authorities have particular interest:

- development projects and
- sustainable transport modes.

Some of the case studies in each cluster will be “laboratory” case studies, which we will use intensively in our research, others will be “comparator” case studies for use by the clusters as part of the learning and dissemination process. Further details of the 35 case studies are given below and in Annex 1.

Each local authority has provided a pro forma specifying the value of the data, models and expertise that they will make available to the project, and the minimum number of person days which they will provide. The total value of the data, models and expertise and time input is up to £2.5M.

Inevitably, given the scale of these activities, the local authorities cannot guarantee that all of these case studies will be implemented in precisely the form currently envisaged, or to the timetable currently planned. However the risks of non-delivery of

these case studies is small, and any changes, or delays, in implementation will themselves be of interest to the research. The consortium can also be flexible in the use of case studies in support of the various tasks.

The arrangements for managing and maintaining the relationships between case studies and research projects are detailed in section 7.5.2.

Through the case studies the local authority partners will contribute information and relevant data to underpin the research projects. As well as data, they will provide practical experience of the development and application of transport and land use policies, strategies and projects towards a more sustainable urban environment, thus providing a grounding in the realities of the issues facing them.

5.2 *Expectations of the case studies*

5.2.1 Organisational Behaviour and Barriers (Project A)

It is intended to undertake an initial questionnaire survey of all our selected case study areas to understand the structures, processes and barriers, and to gather baseline data in conjunction with the other Projects. More in-depth interviews and focus groups will be carried out in a smaller number of case study areas based on these initial findings.

The case studies provide a variety of decision-making settings, in which we will need to understand the structures of the organisations and intra- and inter-organisational networks. Our case studies include Local Authorities (viz. unitaries, metropolitan boroughs, and county councils), Passenger Transport Executives (PTEs) and one regional body.

The case studies will be important in providing us with information on how decisions their organisations work, including the role of officers, members, consultants, public and private sector delivery agencies, regional bodies, and central government offices. The success of this will depend on how much potentially-sensitive information some volunteer case study authorities are willing to provide us with on working arrangements and practices.

Case studies used as laboratories in the other Projects (B – G) will feed into Project A and give more detailed data on how strategies and schemes are developed and delivered by local authorities in partnership with other stakeholders. The case studies will have a feed-back role through the cluster groups, particularly Cluster 2 on decision-making processes and techniques.

The initial questionnaire survey will be modular in design, and relevant sections will be targeted to authority respondents identified through the primary contact in each authority. Local authorities will have the opportunity to consult and suggest changes to the questionnaire before the final version is circulated for completion. Two to three authorities will also be involved in piloting, and will be able to gain exemption from the survey-proper, should they so wish. Later surveys will be based on case studies providing us with information on the effectiveness of the other Projects' input into working practices, where appropriate. All results will be fed back to investigators and

Local Authorities through the Virtual Knowledge Park, and ultimately a written report will be produced.

Timing

The direct contact stages of Project A with case studies will be September 2004 for the initial survey questionnaire, and follow-up surveys in 2005 and 2008. The focus and method (and therefore exact timing) of these re-surveys will be based upon the most efficient and effective data gathering method decided upon by the investigators and local authorities, to meet our research objectives at these stages within the resources available for Project A.

5.2.2 Improved Tools for Option Generation (Project B)

All local authorities contributing case studies will be asked (in the Project A survey) about their current practices regarding option generation (when do they do this?), and their views about the need for new/improved tools: What are their requirements? When would they use new tools? And how? They will also be asked to identify examples/situations that might be followed in more detail.

At the review stage, it would be useful to include any completed strategies and schemes, to document the processes that were carried out. But, for the bulk of this project, we need to work with local authorities on 'live' projects, where the tools we develop can be applied in practice. Authorities do not always generate distinct options for all their plans and schemes, so we need to identify cases where this is an explicit objective – we do not want to add to the burden of local authority tasks.

We would be looking initially for two case studies (one strategy, one scheme), around which we could build prototype tools. We will need to work closely with both authorities, with the teams responsible for developing options and consulting stakeholder groups. We will require access to relevant base data, and will need to discuss any constraints on the generation of options. There will be a degree of interactive working – proposing approaches and ideas and getting feedback. The 'testing' the tools is likely to involve local authority staff directly in this process.

Once this work is completed, we will be able to give other authorities a clearer idea of what is involved. We would set up the tools for implementation (which may involve local authority training and the involvement of stakeholders) and ask for an assessment of how the process has been influenced by the tool, and its value for stakeholder engagement.

Finally, we would invite other case studies to comment on the tools and advise on preferred forms of documentation and dissemination.

All the case studies could contribute to our understanding of current approaches to option generation and related public engagement. The three super sites will provide the opportunity to assess current approaches to option generation in greater detail, and will each contribute one or more case studies. Blackpool and Essex have also expressed a strong interest in applying new option generation techniques. In total we will be seeking three sites covering examples of strategies and five cases of

projects/schemes. Other case studies in the Development and Sustainable Modes Clusters will offer comparator case studies, and we hope also to be able to test our proposals in the context of the work of the SOLUTIONS consortium.

Timing

The intensive tool development stage will run from April 2005 to March 2006; other case study applications will take place between April 2006 and June 2007.

5.2.3 Improved Indicators for Sustainable Transport & Planning (Project C)

All our local authority participants are concerned about the inadequacy, and undue demands, of the current procedures for specifying and using indicators. All have to use them as part of their case studies, and we will take the opportunity to learn from that experience. Where the case studies are at a sufficiently early stage to influence the indicators used, we will work with the local authorities to apply and test our proposed set. Surrey, for example, are very interested in developing quality of life indicators for the next round of Local Transport Plans, which are consistent with their Community Plan. Annex 1 provides an initial indication of the potential laboratory and comparator case studies.

All local authorities contributing to DISTILLATE will be asked (in the project A survey) about the indicators which are currently used. The questionnaire will explore the number and consistency of indicators derived from different backgrounds (e.g. sustainability and LTP targets) and used for different purposes (e.g. APR monitoring and appraisal). It will also examine the confidence authorities have in the quality of indicators which are monitored and modelled. This will form an appreciation of particular areas of concern that require further attention in the case studies. We anticipate that all local authorities would consider using the outputs of Project C and will contribute to the review of these outputs as they evolve.

Case Study Stage 1

Shortly after the questionnaire stage, we would seek to conduct short interviews with those responsible for monitoring at each of the volunteer case study sites and to conduct a more detailed audit of current indicators. This will examine issues including relevance, cost-effectiveness, measurement processes, reliability, durability and statistical robustness. Case study sites would be asked to supply supporting data for the project team to analyse in more detail. Participation in Stage 1 does not commit authorities to participation in Stages 2 and 3.

Case Study Stage 2

The above process will lead to a specification for a new set of indicators that can be used through the subsequent stages of the DISTILLATE project. At this stage we would be looking for around 4 to 6 case studies with which to apply the new suite of indicators as part of their on-going work. It is appreciated that the indicators cannot, at this stage, replace any agreed LTP and Best Value indicators. However, the project team will support this process by providing additional analysis. Some case studies would examine indicators across the policy spectrum, others a more limited set. Case studies could have modelling and measurement capabilities for some indicators.

Case Study Stage 3

Where it is clear from initial investigations that the preferred indicators are difficult to measure, we will investigate and, as resources permit, test new means of doing so such as the application of Information and Communications Technology for data collection and Geographic Information Systems for data processing. When data gaps are identified we would look for 2 to 3 sites that are interested in collaborating on this.

Timing

The Stage 1 audit will run from September 2004 to December 2004. The Stage 2 application of the indicators will run from May 2005 to October 2007. Stage 3 investigations of new indicators will start after May 2005 with timing flexible to meet the needs of local authorities.

5.2.4 Improved Effectiveness in Organisational Delivery (Project D)

This project is likely to be the most difficult for case study partners to decide whether or not to take part, there are political – with a small p – sensitivities, but it is also potentially a richly rewarding project option. We have designed it so that partners can opt in to any one of the main research parts (D2 or D3) without necessarily taking part in the other. Further, as we are aware of the potential for sensitivities, partners may chose to have their research data anonymised if they so wish.

Project D1 will sift through the data from our case study partners in order to categorise institutional and organisational barriers; partners do not need to opt in to D1 as this is using Project A1 data, but for any further research involvement we will first recheck all A1-generated data with our contact person to confirm veracity but also to ascertain sensitivity. D2 and D3 will be carried out as appropriate and *as agreed* with the main contact person.

Researching potential resolutions to obstacles to effective development and delivery can be carried out using a comparative methodology; in other words we can use similar cases and similar situations from the literature and other data, from transport and from farther afield, to find where such barriers have been overcome. This is likely to be a central method for D2 activities. For Project D2 we will want three or more cases to look at in depth, preferably the three supersites but we need at least one LA and one PTE, and preferably one scheme and one strategy case study. The input from the case study partner would be primarily in the role of providing and cross checking data.

Alternatively, or additionally, we may arrange to carry out further intensive fieldwork within an agency or authority to gain deeper understanding of its organisational culture and the opportunities and obstacles it presents. We could, for example, track a scheme and/or strategy through all the chain of events involving various other players to see how linkages are manipulated and power and influence change from player to player between different stages. This would be the focus of a potential D3 activity. For this option the case study partner would need to allow us more access to their organisation. This *could* be wrapped in with a secondment.

Project D4 will be the testing of outcomes and suggestions for wider applicability and this will take place with the clusters and in workshops and so will include all

DISTILLATE partners. Thus no particular further input is needed from case study partners.

Timing

Project D1 will start towards the end of 2004 after Project A1 reports. Case studies for projects D2 (and also D3) will be decided upon in agreement with contact persons by early 2005 with an aim of carrying out focussed research (and fieldwork, if appropriate) throughout 2005 and into 2006. Findings will be tested with clusters during 2006 and 2007 and best practice guidelines for better and more effective working will be rolled out from early 2006 onwards.

5.2.5 Improved Mechanisms for Funding and Phasing of Funding (Project E)

Through Project A, information will be collected from all the participating local authorities to identify funding mechanisms used for projects and the broad impacts of funding arrangements on the phasing of implementation. We will also ask local authorities to recommend project case studies that will be particularly interesting with regard to funding and implementation. From the responses, we will identify projects to be used as case studies within Project E. These projects will have been recently completed and operational.

The main thrust of the work will commence with an overview of the selected case study projects followed by detailed examination of project plans, implementation schedules and project funding sources. Further in-depth examination of the issues arising will take place with the relevant individual local authority actors on (a) financial and (b) implementation regimes and their impact on scheme performance. It is intended that this will be accomplished through focus groups with local authority personnel. A key element of this task will establish the range of financial methods used in practice, how they are chosen and the extent to which their impact on implementation is taken into account at the planning stage. A framework of analysis will be developed to enable comparative analysis of different funding and implementation regimes and how these regimes affect project outcomes.

It is intended that a selection of up to eight laboratory case studies (including the supersites – Bristol, Merseytravel and Surrey) will be used. In order to provide an insight into the delivery of different project types it is important that a range of project types and scales is investigated, from large-scale housing developments through to smaller-scale soft measures. Local authorities not contributing case studies to Project E will be asked to validate the findings from the selected case studies at a workshop during Year 3 of the project. The findings will be amended on the basis of this verification exercise, and recommendations will be established incorporating the outcomes.

The major output is the production of a toolkit for local authorities addressing effective delivery of transport and land-use projects. For this, close involvement and the advice and suggestions of, in particular, the case study cities used in this project, will be required.

Timing

The initial case study information collected in E1 will proceed as part of A1, whose completion is scheduled for Q3/2004, with the other elements (from literature, etc) proceeding in parallel. The main part of the work will commence with Task E2 running from Q4/2004 to Q2/2005, and task E3 taking place through Q3/3005. E4 will commence in Q4/2004, with an initial output scheduled for the end of Q1/2006 for input to the other projects. E4 will be revised, in 2007 to take account of the results emerging from the other projects; the toolkit will subsequently be updated.

5.2.6 Enhanced Analytical Decision Support Tools (Project F)

This Project will work closely with the case studies in Cluster 1, and in particular with the models being developed in Nottingham, Stockport, Strathclyde (STM) and York (STEER). The case studies in Merseyside, Surrey and Newcastle will be used as comparators. The role of these case studies will be to provide detailed information on possible modelling issues including local authority requirements and the use of data if available. In addition we envisage some new model development case studies for Leeds (SATURN, STM and MARS) and Bristol (TPM). For Leeds we will be able to look at modelling needs at different levels of decision-making i.e. (local, metropolitan and regional levels). In addition to filling in the general questionnaire from project A about model requirements, the following level of involvement is envisaged for the above case studies:-

Strathclyde – to discuss in detail any future requirements in terms of modelling which can/could be implemented in the current STM. To supply existing data if required (it is difficult to say at this stage whether any new data will be required).

York – to support the modelling work on the Fulford Road scheme and similar modelling work aimed at reducing network congestion across the City; and to discuss modelling needs in both specific and general terms for York and the York area.

Bristol – to discuss modelling needs in general and comment on new developments in TPM.

Leeds – this is a new modelling development case study. It is difficult to say at this stage the level of involvement but initial discussions about modelling needs at a general level will be required. Comments on applicability of any future results.

Nottingham – Initial discussions about general modelling requirements, plus in-depth discussions about modelling WPPL and possible access to MVA's model to observe how this was done previously. In the future possible data on before and after responses to WPPL.

Stockport – Initial discussions about modelling needs in general, possible follow-up discussions about how useful our modelling approaches would be.

The aim of the start-up meetings would be to identify research interests, clarify possible levels of support, identify other agencies/consultants who may be affected and discuss possible links with other projects within DISTILLATE.

For comparators we envisage a couple of meetings during the project to compare modelling approaches and issues being tackled. Other case studies are welcome and may also emerge from the Project A surveys.

Timing

Initial discussions should ideally take place in Autumn 2004. Further inputs to be decided at these meetings.

5.2.7 Enhanced Appraisal Tools (Project G)

All local authorities contributing case studies will be asked (in the Project A survey) about whether the issues covered by the sub-objectives above are of current interest to them, whether there are any other appraisal related issues of concern and whether they would be willing to work with us given concerns about confidentiality. They will also be asked more detailed questions relating to the issues covered by the sub-objectives.

Once this initial survey has been completed, it will be followed up with more in depth interviews with interested local authorities. This will form part of the initial information gathering and link establishing part of the project. We expect to be in close communication with a small number of local authorities (maximum 3) who are actively engaged in work which is relevant to the project and which the project can study intensively. We will also be interested in looking at past work which has been carried out. These case studies will be used to explore the issues (either from the sub-objectives or as a result of the initial surveys).

All the supersites and Nottingham will be laboratory case studies. Comparators will be drawn from Yorkshire and Humber, Bath, Stockport, Strathclyde, Newcastle, Sheffield, Essex, Blackpool and West Yorkshire PTE, thus offering a wide range of potential types of scheme on which to test the newly developed approaches. We have also discussed the potential for testing our revised appraisal procedures as means of assessing the new technologies developed in FUTURES and the support for disadvantaged groups developed in AUNT-SUE.

The subsequent activity of the project will be to study the issues raised and to develop ways of addressing them using newly developed approaches. Once these approaches have been developed, these can then be tested in case studies with local authorities.

The final stage of the project will be to assess the success (or otherwise) of the new approaches, this may involve allowing other local authorities to comment on what has been done.

Timing

The initial interaction with local authorities will take place in 2004. The follow up will take place in the first half of 2005, leading up to the 2nd workshop. The development of new approaches will take place from the middle of 2005 to March 2007. The work will be brought together from April to the end of 2007.

6 Dissemination and Exploitation

6.1 *The Clusters*

Effective dissemination and exploitation will be crucial to the success of this programme, given our vision of a step change in the way in which strategies are developed and delivered. One key element in our dissemination strategy is our Clusters, in which local authorities can learn from one another and from our research. We will use these actively to ensure that our research is focused on emerging needs and that local authorities can apply our results as they arise. Our super sites and laboratory case studies will provide active demonstrations of the application of our research ideas, while our comparator case studies will enable us to test their wider applicability.

Two of the Cluster Groups map directly onto the two broad areas of research:

- Analytical support tools and
- Decision making processes and techniques

The other two apply that research to two main areas of policy in which the local authorities have particular interest:

- Development projects and
- Sustainable transport modes.

At their suggestion, local authorities will be responsible for the management of the Clusters, which will meet as needed by the participants, but typically at least twice a year. There is an open invitation to the Department for Transport, the Office of the Deputy Prime Minister and the Local Government Association to participate in these Clusters, and we will discuss with them on a regular basis ways in which our results can be implemented and facilitated. It will be for the local authority coordinator of each Cluster to decide whether to extend membership to other local authorities; the possibility will also exist of inviting other European cities under the aegis of appropriate European programmes.

Members of the research team will attend to present research results and to discuss the potential for pursuing identified additional research needs. Those local authority partners which employ service consultants will be welcome to invite them to join them at the Cluster meetings, provided that any such consultants also sign the programme's confidentiality agreement (see Section 7). Cluster Management is described in Section 7.7.

6.2 *The Workshops*

In addition to the Clusters, we intend to hold five Research Workshops, as shown in the GANTT chart in Section 4. The first of these, in November 2004 will present the results of the initial round of surveys from Project A, and will discuss the implications for the detailed research in each of the other technical projects. The second, in June 2005 will focus particularly on the selection of indicators to be employed in Projects B, F and G. We hope to involve members of the other programmes in the SUE Transport Cluster in this workshop. The third, provisionally in March 2006, will

review the results of the second survey of local authorities in Project A, and of the early tasks in the other projects, and will confirm the plans for these projects' subsequent tasks. It will also provide an input to the mid term review of the DISTILLATE programme. The fourth, provisionally in March 2007, will review progress in the testing and application of research results. The final workshop in January 2008 will consider the results from the programme as a whole, including the final set of surveys in Project A. It is timed to allow the conclusions from the workshop to be reflected in the programme's final report. All workshops will be open to local authority members and their representatives, and we will also invite other local authorities and members of a Reference Group.

6.3 *The Reference Group*

The Reference Group is designed to reflect the interests of a wider range of stakeholders, including the Department for Transport, the Office of the Deputy Prime Minister, the Local Government Association, national and local government departments responsible for related policy sectors, national agencies responsible for transport modes, transport operators and providers, transport consultants, transport users and interest groups. Their role in the workshops will be to comment on any constraints to the wider application of our research results, and on ways in which these can be overcome. Membership of the Reference Group will be finalised in advance of the first Workshop. Reference Group management is described in Section 7.7.

6.4 *Links to international research*

While these arrangements should secure effective dissemination and exploitation within the UK, the results should be relevant internationally, and we will ensure that the project keeps abreast of research developments and practice elsewhere. The research team offer a number of ways in which this can be achieved.

The partners are actively involved in a wide range of European research projects, one of which, PLUME, is providing Europe-wide dissemination of research into sustainable urban land use and transport. Through all of these the investigators will ensure that the project keeps abreast of research developments and emerging research themes, and that findings are disseminated widely. In addition to these activities we will maintain an active project website within the Virtual Knowledge Park (see Section 7) and publish regularly in conferences for practitioners, such as ETC, TPS-SAM and TRB, and in academic journals.

6.5 *Commercial and other beneficiaries*

The programme is not designed primarily to secure commercial benefits; instead it is aimed at local authorities, and through them improving quality of life for the public at large. Our aim is that local authorities will be able, as a result of our research, to develop more sustainable long term transport and land use strategies and schemes and to involve their other stakeholders more effectively in doing so. This should both reduce significantly the resources and elapsed time involved in implementing strategies and achieve major reductions in congestion, pollution and accidents. The

Good Practice Guidelines which will be produced in several tasks will be of value to UK local authorities, and will have the potential to be marketed internationally.

In addition, the enhanced decision-support tools which we develop will be of commercial value, and we will ensure that they are appropriately exploited, through our own initiatives or in collaboration with selected consultants. To this end, we will ensure that all the foreground intellectual property developed in the programme is appropriately protected. We have considerable experience of such exploitation, having generated income in excess of £5M from such products from past research.

7 Programme Management

7.1 General principles

The Research Programme will be managed by Professor May, following the Institute for Transport Studies' ISO 9001 accredited quality assurance procedures. The overall aim of the management procedures will be to ensure that the Programme's overall objectives can be met within the resources available, that the outputs are of high quality and are delivered on schedule, and that the results are effectively disseminated and exploited. Professor May will be supported in this by a Management Group, a Programme Manager, Mr Page, and a Local Authority Coordinator, Dr Gallagher. In addition, EPSRC will appoint a Steering Group to oversee the Research Programme and to satisfy itself that its wider objectives are being met.

Detailed project management will be overseen by the Management Group, involving the five investigators, who will regularly review, for each Research Project and for all current tasks, the extent to which the objectives have been achieved, the further resources needed to meet them, and the adjustments needed to achieve completion. Each Project will be managed by an identified Project Director and individual tasks and projects will have their own steering meetings, where deemed necessary. Project progress will also be monitored against the milestones identified in the GANTT chart, but on the understanding that these may well change in the light of the decisions of the Steering Group.

Contact details for the members of the Management Group, the Local Authority Coordinator and the Project Directors are given in Annex 2.

7.2 The Management Group

The Management Group is responsible for monitoring progress with work on the DISTILLATE research programme; ensuring that the programme's research objectives can be met within the resources available; checking that deliverables and other outputs are of appropriate quality and are produced on time; monitoring the interaction between projects and ensuring that outputs from one project to another are appropriate to the latter's needs; and satisfying itself as to the arrangements for dissemination and exploitation.

The Management Group is responsible for submitting regular reports to the Steering Group, and for responding to recommendations from the Steering Group.

Its members are

Tony May, University of Leeds (Chair)
Angela Hull, University of the West of England
Peter Jones, University of Westminster
Johan Kuylenstierna, University of York
Neil Paulley, TRL Ltd.

Matthew Page, Programme Manager

Each member may be represented by an alternate as required.

The Management Group will meet at least quarterly, and monthly as required.

7.3 The Steering Group

The research strategy will be overseen by a Steering Group, including the five investigators, three independent members from local government, stakeholder groups and consultancy, a representative of the Department for Transport and an EPSRC nominee, with an independent chair. The Steering Group will meet every six months to receive reports on the progress of the research and proposals for future research activity and dissemination. The main function of the Steering Group will be to guide the project, provide ideas and ensure the professional and practical relevance of the work. It will make recommendations on any necessary redirection of the research programme and will also participate in the mid project review required by EPSRC. Members of the Steering Group will be required to sign the programme's confidentiality agreement.

7.4 The Programme Manager

The Programme Manager will advise the Management Group on the management of the DISTILLATE research programme, and take executive action on behalf of the Management Group. He will be a full member of the Group. Supported by information provided by partners and project managers, he will:-

- Assess whether the programme's objectives are being met;
- Check that the resources remaining are sufficient to satisfy the remaining objectives;
- Check that deliverable and other outputs are of appropriate quality and submitted on time;
- Monitor the interaction between projects to ensure that projects receive the information that they need from other projects;
- Review the arrangements for dissemination and exploitation;
- Liaise with the Local Authority Coordinator to ensure that the Management Group is aware of any problems arising in interactions with local authorities;
- Provide reports as necessary for the Management Group.

The Programme Manager has a budget of six person months over the four year programme, together with three months' secretarial support.

7.5 Managing Local Authority Input

The Local Authority Coordinator is responsible to the Programme Director for ensuring that local authorities are benefiting appropriately from involvement with the DISTILLATE research programme, and are contributing effectively to it. He will:

- Advise the local authorities on the coordination of the cluster meetings
- Coordinate local authority input to the Reference Group and the annual workshops
- Satisfy himself that the local authorities are making effective contributions to the research programme
- Review with local authorities on a regular basis the benefits which they are obtaining from the programme and the ways in which these benefits can be disseminated and exploited
- Advise the Programme Director and Programme Manager of any issues to be resolved by the Management Group

The Local Authority Coordinator will contribute mainly under three headings:

- Case Studies (Section 7.6)
- Reference Group (Section 7.7)
- Clusters (Section 7.8)

While he may participate in discussions on individual case studies, he will not be directly involved in their management. It will be for the Programme Director to resolve problems arising from the conduct of the case studies.

7.6 Case Studies

Each of the case studies identified in the 16 local authorities has been linked to one or more of the Projects, as either a laboratory study or as a comparator. The case studies have been divided between the Clusters, so that each Cluster potentially includes the three super-site authorities plus between four and six other local authorities.

Thus each local authority will be relating to one or more of the research teams carrying out each task and will be expected to provide access to information, and to interact with one or more teams, as well as participating in one or more of the Clusters. This could be very demanding in terms of time and other resources, and there is also a risk of multiple requests from the separate research teams for access to similar information. A lead person, (the principal point of contact) will be identified for each case study, who will be responsible for coordinating contact between the case study and any of the project leaders of the research projects using the case study.

The ‘day to day’ links between research projects and case studies will be managed by direct liaison between the individual research project managers and the individual local authority experts. They are expected to develop a good working relationship and to manage and resolve issues as they arise. These ‘day to day’ relationships will be supervised and supported by the ‘principal point of contact’ in the research programme and the local authority organisation.

One senior individual in one of the research partners will be responsible for each local authority and will link with a senior individual in the authority. These will either be the ‘principal point of contact’ or will nominate someone to carry out the role. They will jointly ‘own’ the relationship between DISTILLATE and the case study, coordinate approaches and responses, set up the direct links between research projects and case studies, and resolve any issues that may arise.

The principal points of contact will arrange ‘start-up’ or ‘kick-off’ meetings between a representative of all the research projects that intend to work closely with the case study and representatives of all the departments that are involved in or affected by the case study. These meetings will identify the interests and linkages; firm up on the details of the case studies (and consider whether other case studies may also be of interest, either a substitute or as additional comparator or reference studies); and set up the initial direct case study/research project contacts.

In the event of problems developing in the direct contact between case studies and research projects, in the first instance they will be referred to the principal points of contact for resolution, then to the local authority coordinator and, if necessary, eventually to the programme director, who is ultimately responsible for the success of the programme.

The Local Authority Coordinator’s role will be to ensure that the difficulties have been resolved to everyone’s satisfaction and do not remain as a source of friction for the local authority, the research project or the DISTILLATE programme.

7.7 Reference Group

The Reference Group is intended to reflect the interests of a wider range of stakeholders, including national and local government departments responsible for related policy sectors, national agencies responsible for transport modes, transport operators and providers, transport users and interest groups, as described in section 6.3. The objective is to share the emerging results from the research with a wider range of influential contacts, and gather their views on the application and implementation of the results.

The Reference Group will be supported through the Virtual Knowledge Park. Members of the Reference Group will have access to a wide range of material, but given their role and responsibilities in their own organisations, many will not have the time or opportunity to delve deeply into the background information. Therefore information will be mainly communicated to the Reference Group through an electronic newsletter. This will summarise progress and highlight issues of particular interest or concern, and provide links to more detailed source documents and references.

Members of the Reference Group will be invited to participate in a wider research workshop every year, in which they will be able to learn about the progress of DISTILLATE, comment on any constraints to the wider application of the research results, and consider ways in which these can be overcome. Other local authorities will be invited to participate in the annual research workshop.

Members of the Reference Group will be invited to contribute to developing the programme to involve them and the agenda for the annual research workshops, as well as participating in the workshops.

7.8 Cluster Groups

Each of the Cluster Groups is expected to meet up to twice a year, and will provide an opportunity for the members of the Clusters to learn from one another, as well as from the research. The Clusters will also be a research resource for the project team to learn from practical experience. One key aspect for the Clusters will be to identify and share examples of good practice. The local authority coordinator will facilitate cross fertilisation between the separate Clusters.

The four Cluster Groups will be supported through the Virtual Knowledge Park. Each case study will be assigned to one or more of the Cluster Groups, and each local authority partner may join one or more of the clusters. A flexible programme of meetings will be organised, based around the issues which are developed through each Cluster Group. Each meeting will have a specific topic or theme and may involve one or more of the cluster groups. The meetings will be based at one of the local authority partners and will involve one or more of the case studies.

Each Cluster Group will be led by one of the local authority partners, two have been identified and the other two will be identified through the ‘start up’ meetings and dialogue with the authorities.

- Analytical support tools (Strathclyde Passenger Transport – John Halliday)
- Decision making processes and techniques (to be arranged)
- Development projects (City of York – Sue Smales)
- Sustainable transport modes (to be arranged)

With the assistance of the Local Authority Coordinator, each Cluster will:

- define how it intends to work together,
- with the other Clusters and
- with the relevant DISTILLATE research consortium members;
- develop an agenda (objectives)
- a programme and
- a timetable

The Local Authority Coordinator will facilitate this process, supporting the local authorities and developing the dialogue between the research members and their local authority partners, as well as challenging both the local authorities and the research members understanding of the issues, identifying any gaps or misunderstandings and encouraging both sides to investigate and understand the issues for each other’s standpoint.

7.9 Collaboration Agreement

A Collaboration Agreement will be signed by all the academic and local authority partners. In addition to clarifying responsibilities and contributions, it covers the issues of intellectual property and confidentiality. It commits all partners to respecting the confidentiality of local authorities on specific policy issues, while retaining the right to publish more generally applicable results. It also ensures that any foreground intellectual property generated within the Programme is appropriately protected and exploited, and that any background intellectual property provided as input to the Programme is protected. To these ends, other participants including service

consultants and members of the Steering Group will be asked to sign a confidentiality agreement.

7.10 Resource Agreement

The five research partners have also agreed on a statement of the allocation of the budget between them, and the arrangements for monitoring expenditure, revising the budget allocation, and making payments.

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Annex 1 Local Authorities and Case Studies

It is anticipated that the super sites will have an interest in all four clusters. Many of their case studies span different clusters, so they are listed separately. Note that all allocations to projects are subject to review as the programme develops.

'Supersite' Case studies

Proposing LA	Case study	Linkages to projects	
		Laboratory for:	Comparator for
Bristol	Integrated strategy	A, B, C, D,	
Bristol	Targets and indicators	A, C, G,	
Bristol	Modelling	A, B, C, G,	
Bristol	Stakeholder involvement in the LTP	A,	
Bristol	Showcase bus routes	A, B, E,	C
Merseytravel PTE	Model development and option generation	A, B, G,	F
Merseytravel PTE	Objective one developments	A, B, D	E
Merseytravel PTE	Organisational linkages	A, D	
Surrey	Housing development and transport strategy	A, B, C, D, E,	
Surrey	Developing better techniques to enable LTPs to enhance the quality of life	A, B, C, G,	F

Cluster 1: Analytical support tools

Proposing LA	Case study	Linkages to projects	
		Laboratory for:	Comparator for
Nottingham	Modelling workplace parking levy	A, F, G	
Nottingham	Modelling soft policies	A, F, G	
Nottingham	NATA applications for sustainable transport projects	A, G	
Stockport	Town centre model	A, F	G
Strathclyde	Public transport option analysis through transport and land use models	A, B, F	C, G
York	Decision support for network management in York	A, B, F	
Newcastle	Tyne and Wear strategic model*	A	F, G

*Subject to final confirmation

Cluster 2: Decision-making processes and techniques

Proposing LA	Case study	Linkages to projects	
		Laboratory for:	Comparator for
Newcastle	Internal management	A, D	
Yorkshire and Humber Assembly	Monitoring of the regional transport strategy	A, C	G
Bath	Conflicts between heritage and sustainable transport	A	D, G
Stockport	Community transport plans	A	C, D,

Cluster 3: Development

Proposing LA	Case study	Linkages to projects	
		Laboratory for:	Comparator for
Sheffield	Redevelopment of Sheffield city centre	A	B, E, G
Sheffield	Redevelopment and the M1	A	B, D, E
Bath	Western Riverside Development	A	B, C, E
Bath	Long term strategy for Bath	A	B, D
Essex	Integrated transport strategy for Chelmsford	A, B, C, E,	G
York	York Central	A	B, D, E
Newcastle	Regional infrastructure priorities	A	B, C, D, E
Leeds	Aire Valley Leeds (AVL) regeneration project	A	B, E

Cluster 4: Sustainable modes

Proposing LA	Case study	Linkages to projects	
		Laboratory for:	Comparator for
West Yorkshire PTE	Extension of strategic high quality rapid public transport in West Yorkshire	A	B, C, E, G
South Yorks PTE	Quality buses	A, B, E	
Newcastle	Superbus routes	A, B	E
Newcastle	Cycling strategy	A, B, E	G
Blackpool	Walking strategy	A, B, E	G
Strathclyde	Management of Glasgow airport rail link and cross city rail link	A, E	B, D

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