

Vision 2030

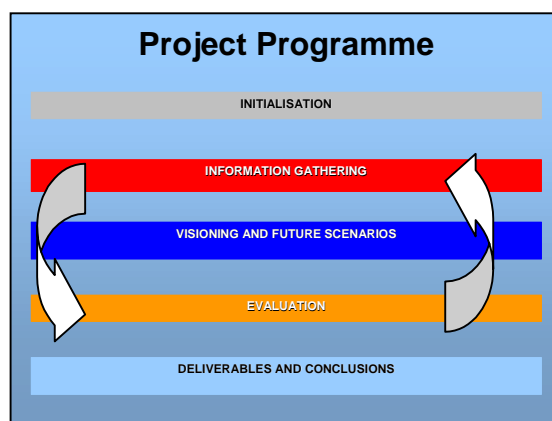
Project Methodology

“To identify and develop future visions for the mobility of people and goods over a 30-year horizon in order to influence the agenda for the strategic highways.”

Introduction

1. Inter-urban transport is, and will continue to be, driven by a range of socio-economic factors. To achieve the project aim stated above, a structured approach was needed to identify potential roles of strategic highways in meeting future mobility needs and identifying opportunities to influence the long-term agenda for strategic highways.
2. An outward facing approach was considered to be essential for technical and political appreciation of the project objectives and also to gain reciprocal information from others. This was achieved:
 - a. within the Agency, through an article in Agency’s “Network” magazine and sessions at the national staff conferences;
 - b. With other government departments (especially DTLR) through a series of presentations within different divisions and with staff at various levels of seniority;
 - c. Externally with professional audiences, such as IHT, and PIARC.
3. The project provided an opportunity for the Highways Agency (HA) to consult with other organisations. One of the motivations for setting up the project was to identify opportunities for broader strategic partnerships in the future, for example The European Commission Directorates for Energy and Transport (DG TREN) and for the Information Society (DG INFOSOC) in Brussels.
4. Although it was important that the project should explore the full breadth of society’s needs and ambitions, the particular remit for the Highways Agency is the future of the strategic road network and it’s role as Network Operator. Therefore conclusions regarding the Vision 2030 project and recommendations to the Highways Agency for the strategic road network, which follow from the project, are directed to this end.
5. The methodology and processes adopted by the project team have produced three very different scenarios for how life in the UK might

develop 30 years hence and how inter-urban transport would evolve in response. These scenarios allow the project to identify opportunities and constraints that might prevail in the future in respect of the HA's core business, and to reach conclusions on the potential role of the strategic highways that could be taken forward by the Network Strategy Directorate of the Agency.



Programme

6. The project had 5 main stages: -

- "Initialisation";
- "Information gathering";
- "Visioning and future scenarios";
- "Evaluation"; and
- "Deliverables and conclusions".

The stages are presented sequentially, but in practice there was continual iteration around the cycle of information gathering, visioning and evaluation, leading to further (new or refined) information requirements. This continued within the project lifecycle, until it was felt that there had been sufficient iteration to provide an adequate basis for the project deliverables.

7. The project was planned to a specified timescale, though it has been subject to organisational and political influences, both internally and with DTLR. As the project progressed the iterative process involved in qualitatively developing the visions was demanding. This is a fair reflection of the process of long term strategic planning.

Stage 1 Initialisation

8. A project team, comprising internal staff and external consultants, was appointed by Network Customer Services, now Network Strategy. An initial scoping exercise was undertaken by the team to discuss the philosophy of visioning and the processes, which could meet the project objectives. This resulted in the development of the 5-stage process outlined within this report.

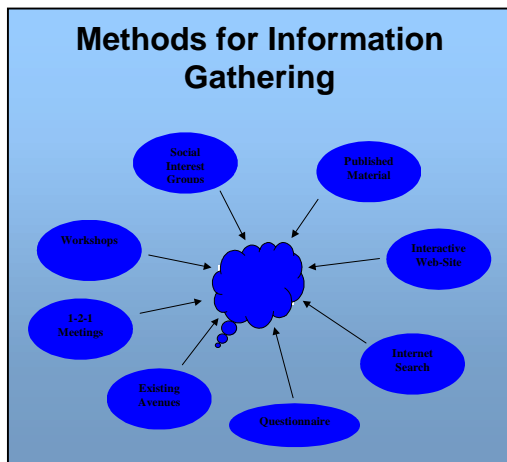
9. To set the scene, a Groundwork Report was prepared to establish the current position of lifestyles and transport, trends and research in the following areas:

- Education
- Society / Community Living / Housing
- Demography
- Healthcare
- Economics, Politics and Industry
- Information, Communications and Media
- Built Environment and Transport
- Military and Defence
- Vehicle Technology and Design
- Environmental Issues / Energy
- Satellite Systems and Mapping
- Other Organisations

These research areas provided a framework for the gathering of information on transport related future trends and forecasts.

Stage 2 Information Gathering

10. This stage of the project was to use the combined knowledge of experts and their informed opinion to provide a consensus on key drivers and trends in these research areas. The methods used to secure the information (see diagram) needed to be tailored to the value of the output. The project needed to access various different sources of information. For example, securing detailed individual expert opinion, based on specialist knowledge of a given subject, required a different approach to the general canvas of a wide range of specialists for their visions and personal opinions.



11. The project generated a vast amount of expert opinion and information, which was recorded in a database. Information was categorised according to influence on mobility. The database allowed information to be sorted and regrouped to assist in the project evaluation process.

12. An extensive review of information on trends and predictions across

environmental, social and technological spheres was carried out as a key resource for the project. The review covered:

- Key indicators of socio-economic trends and forecasts, with quantification when it was available;
- Expert opinion and judgement based on extensive research and knowledge in a given field, for example an analysis of trends in communication technologies and construction methods;
- Strategic analysis of future economic and societal trends and other external influences;
- Insights and observations that relate to the various stakeholders in the transport industry;

13. This information was brought together in a collection of "fact sheets" covering 9 main areas:

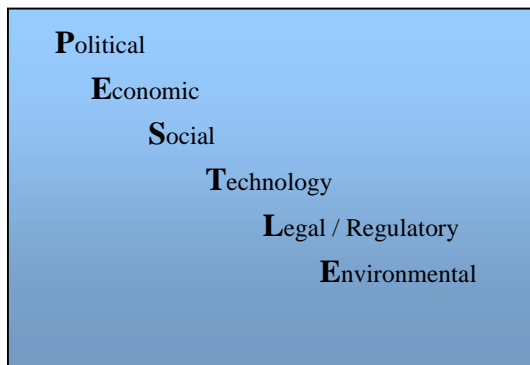
- Traffic growth and user behaviour
- Travel substitution
- Emerging technologies and concepts
- Vehicle design and technology
- Energy
- Environmental concerns
- Freight and Logistics
- Social, housing, community, health, education concerns
- Relevant European projects

14. Arising from this information, a variety of social and economic issues were identified which required analysis for significance in presenting one or more visions these included:

- The likely range of future mobility patterns

- Constraints that are likely to be operating on the development of the transportation infrastructure 30 years hence
- Society's requirements

15. The project adopted, a commonly used management tool, known as PESTLE, to consider the macro-environmental factors which impact on the strategic road network, the Agency's core business area. These external influences, which are outside the direct control of the business, are classified under the six headings of:



16. Any business should consider these influences when undergoing a strategic planning process in order to understand how such forces could shape the context for their future business. By understanding the presence and movement of these factors, then a business can plan for eventualities that might be otherwise unforeseen.

17. The themes listed below formed the basis for emerging issues and with the underlying PESTLE analysis, there was a consistent approach to the remaining stages of the project.

- Developments in technology and construction methods that may influence the provision and maintenance of transport infrastructure 30 years hence.

- Developments in road vehicle engineering and control technologies, which might lead to change in patterns of mobility and usage of the inter-urban road network.
- Scope for changing the supply of road space and parking facilities to accommodate the increasing levels of road traffic.
- Scope for intervening to change the demand for road space and parking facilities.
- Scope for introducing improvements in safety as targets for traffic related deaths and injuries are addressed
- Environmental concerns regarding pollution from traffic and increasing needs for sustainable solutions
- Social, economic and demographic changes which may affect the demand for mobility of people and goods:
 - Changes in the locations in which people chose to live and work:
 - Changes in shopping and delivery patterns
 - The internationalisation of industry as work locations are relocated to places where the appropriate skills are most economically available and where efficient transport arrangements exist for the supply and distribution of materials
 - The increasing range of choices relating to existing business meetings and routine office work patterns
 - Changes in the availability, and the use, of leisure time

coupled with increasing trends in tourism

The “Overview of Future Trends” document was produced to disseminate the information to Agency personnel and a broader professional audience.

Stage 3 Visioning and Future Scenarios

18. Different socio-economic scenarios represent the foundations for building visions of transport in the future. They are a key building block in the Methodology of the Vision 2030 project.

19. Statements about the future (assertions, expert opinion and hypotheses) were extracted from the information gathered in stage 2. These statements demonstrated a great deal of diversity with some inconsistencies, which required further clarification. A process of sifting through the statements and mapping the issues was adopted for the development of scenarios and also as an output from the project for use by others within the Highways Agency and the transport research community.

20. These statements were developed into a number of coherent scenarios that captured and summarised the future in words and diagrams. Each was presented as a narrative of the future scenario with supporting forecasts, expert opinion and key statistics.

21. This work was carried out by bringing together a panel of internal and external experts from a wide range of fields of expertise. The synthesis of the scenarios was achieved through a two-day workshop, where all of the

information gathered, including expert opinion, future trends, key issues was presented for elucidation, and further refinement.

22. The Panel, through a syndicated process, developed three future scenarios, which described a likely future of inter-urban mobility of people and goods, and inter-urban mobility. The panel considered key issues in relation to four principal areas of concern:

- Potential threats to the mobility of people and goods.
- Opportunities to enhance the mobility of people and goods.
- Areas of uncertainty which will require further research and evaluation;
- Potential areas of catastrophic risk for a future highway administration.

23. In addition, the panel considered opportunities to achieve a preferred outcome for the Highways Agency. The output of this stage of the study produced two documents as recorded in the “Socio-Economic Scenarios and Future Transport Visions”, and a “Side-by-Side Scenario Comparison” for consideration during the evaluation stage.

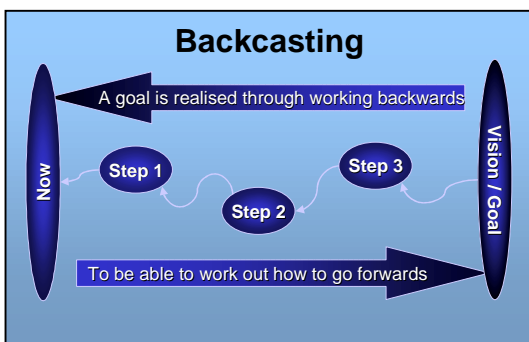
24. The scenarios were then subject to further visioning work and assessment by peer review. This is a central part of the visioning process, and is necessary to maintain credibility to be able to substantiate the final project deliverables.

Stage 4 Evaluation

25. The three socio-economic scenarios provided a constructive basis on which to explore the opportunities to

develop future visions for the role of strategic highways. Through a process of analysis and debate within the team, the key themes were distilled from the three scenarios. These key themes included common issues across each of the themes, but were applicable within the context of each scenario. Other themes were found to have desirable objectives based on individual factors from specific scenarios. These themes were then worked into a portfolio of 12 Transport Visions.

26. The project team evaluated the themes and issues raised, expert hypothesis and conjecture that are relevant to a future highway administration during a further series of workshops, using a technique of “back-casting”.
27. Back-casting, was identified from the report of the European strategic transport review project POSSUM^{*} as a means to analyse scenarios and establish potential steps to a desired outcome. The process involves considering each visionary statement as a long-term goal and the current position as the starting point.



28. Rather than using forecasts and trends, which are generally applied on a linear basis, with the “back-

^{*} POSSUM Briefing Paper to DG Transport, Feb 1999, Prof. David Banister

casting” method the goal is presented as given and the analysis concentrates on identifying the necessary pre-conditions for success. Based on this analysis possible pathways from the present day towards achieving the long-term goal can be mapped and the essential stepping stones to achieving the goal can be identified.

29. The evaluation was based on a combination of information obtained at stages 2 and 3. New or broader issues were found to fall out during the back-casting process, which were more qualitative, open minded and creative than those from a more conventional forecasting process. In particular, the back-casting process encourages the exploration of areas of uncertainty and risk, and permits a free-ranging evaluation of how those risks might be addressed.
30. It was felt important not to discard or overlook any issue that represents a commonly expressed concern about future mobility, especially if backed by a sound body of evidence or expert opinion. These outlying issues, whilst not totally speculative, were considered to be key drivers providing
 - An opportunity for the strategic urban network;
 - Or may represent a major threat or obstacle to achieving a preferred vision.
31. Evaluation of significant recurring themes and non-trivial issues were tested against the three scenarios and developed for inclusion within a Portfolio of Transport Visions. This was undertaken by the project team and selected Agency experts, working in small teams.

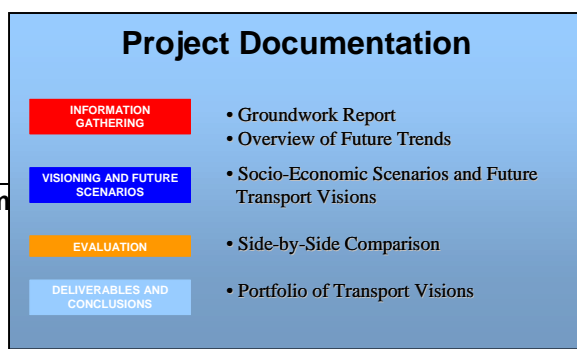
32. Four tests were applied:

1. A credibility check: For each theme or major issue, how speculative and uncertain is it? Could the team take a view on what is the most likely outcome, based on today’s perspectives and trends? How useful would it be to keep track and manage that uncertainty?
2. A relevance test: What are the implications of the issue for inter-urban transport, and the strategic inter-urban network in particular? What kinds of risks are implied – technical, political, organisational, etc? How might these risks be managed and contained?
3. Identify the opportunities: Does the issue suggest opportunities for developing synergies with other key players, or new business opportunities that would benefit future operations on the network?
4. Identify any potential threats: Does the issue suggest a potential disaster scenario that should be analysed so that mitigation strategies can be developed in good time? What might be the consequences of failing to plan for these “worst case” scenarios? Are there obvious response strategies that should be explored?

33. Based on a consensus view on these 4 tests the Transport Visions were developed.

Stage 5 Project Deliverables

34. The project has produced a series of documentation to deliver the results



of the visioning work.

35. The finalised Portfolio of Transport Visions encapsulates the opportunities identified from the project and also includes aspects, which were considered to demand more elaboration.
36. One key concern throughout the project was the consideration of relevance of visions to current Highways Agency activities. This is reflected in the credibility and attainability of the Transport Visions but is reinforced by selective reference to the Family of Highways Agency Strategic Plans, and an element of conformity to the 10 Year Plan, the Agency’s Corporate and Business Plans.
37. Presentations and reports on Vision 2030 have proven to be an important output of the work. The material was developed to serve a wide range of audiences either to report on the progress of the work or to provide a process of project promotion to enable the effective delivery of the project outputs. Presentations have been given to:
 - The Agency’s own staff, through a Staff Conference session, “Network” magazine and “Update” notes;
 - Highways Agency Board and Network Strategy, through structured presentations and workshops to promote the project and demonstrate the value of the project outputs;
 - Senior officials in DETR, including a pre-2001-election presentation to Willy Rickett, DG – TSP, to assist in new-minister briefing

material; DTLR-TSP branch heads to promote the wider issues of partnership and cross government collaboration required to take forward some of the visions

- Other Government Departments, e.g. Driver Vehicle Operator Board in supporting a “futures” exercise they had started
- In Europe, to promote and information gather from selected members of DG INFOSOC and DG TREN;
- Academics, professional bodies and specialist interest groups concerned with highways, transportation, transport logistics and the mobility of people and goods. Support was provided to Transport Research Group futures work carried out for DTLR Traffic Statistics and Finance, as well as informing the Foresight Vehicle Thematic Group and others of the procedure and outputs from the Vision 2030 work;

38. Working documents were produced as the project evolved to meet the demands of the process. A final publication set has been produced and are available through the Agency’s Adobe information site, and on the following website, www.ankerbold.co.uk .