

“The value of a Scenario Planning Process

is not so much about getting the future right as to avoid getting it wrong!”

Dr Keith Suter, Economic and Social Commentator,
Global Business Network, speaking at the ASCPA
National Public Sector Convention, Perth, 19 Nov 2003.

- “It reduces the risk of being taken by surprise
 - Encourages us to think about the unthinkable
 - Encourages us to look at current events with different eyes
 - Encourages us to ‘see’ trends that are currently ‘invisible’ (they are there all right - it is just that we are not noticing them
 - Trends are not necessarily destiny: there can be major and abrupt changes”**
- ** more from Keith Suter in the next issue!

Mining the Archives: Scenario Planning, Images of the Future

Every now and then there is a piece of work so interesting that it remains a ‘classic’, yielding value long after others have faded away. Looking at plausible futures and what they imply for assets and asset management is critical for strategic asset management; critical yet not so simple, as we saw in the exercise published in the last issue looking at the future functional lives of assets.

For all of you who have carried out any futures work, or are about to (and that should, in one way or another, include everyone) here are some excerpts from a study conducted twenty years ago by Dr Derek Scrafton, then head of the SA Department of Transport, and Phil Skene. I have selected elements that show the methodology and some of its application.

*Researched and written by Dr Penny Burns, AMQ International.
Published fortnightly. Subscription, Comment, or Inquiries to*

AMQ International
PO Box 75 Salisbury South Australia
Tel 618 8281 5795
Email: sam@amqi.com Website: www.amqi.com

A Classic: The SA Dept of Transport 1980s Scenario Planning Study

In contradistinction to treasury and government reports where futures are frequently a simple extrapolation of past growth trends and where life is treated as if it were an economic equation, the scenarios developed here are neither intrinsically 'good' or 'bad'. In fact, study the examples here and you will likely find elements that appeal as well as elements that repel. That's life!

Who would benefit from scenario development and examination?

Here are some:

- Councils with declining populations
- Councils with increasing populations
- Recently restructured organisations, particularly those that have been formed from sections of other departments
- Agencies with large and looming asset renewal
- And especially, agencies planning large investments in new, long-term assets!

Study the methodology. May it inspire you, and guide you!

“Short-term planning should be sensitive to long-term inputs,

but the difficulty of making any definite statement about the future environment and the lack of an established methodology has meant that the long-term is often ignored in favour of short-term expediency.

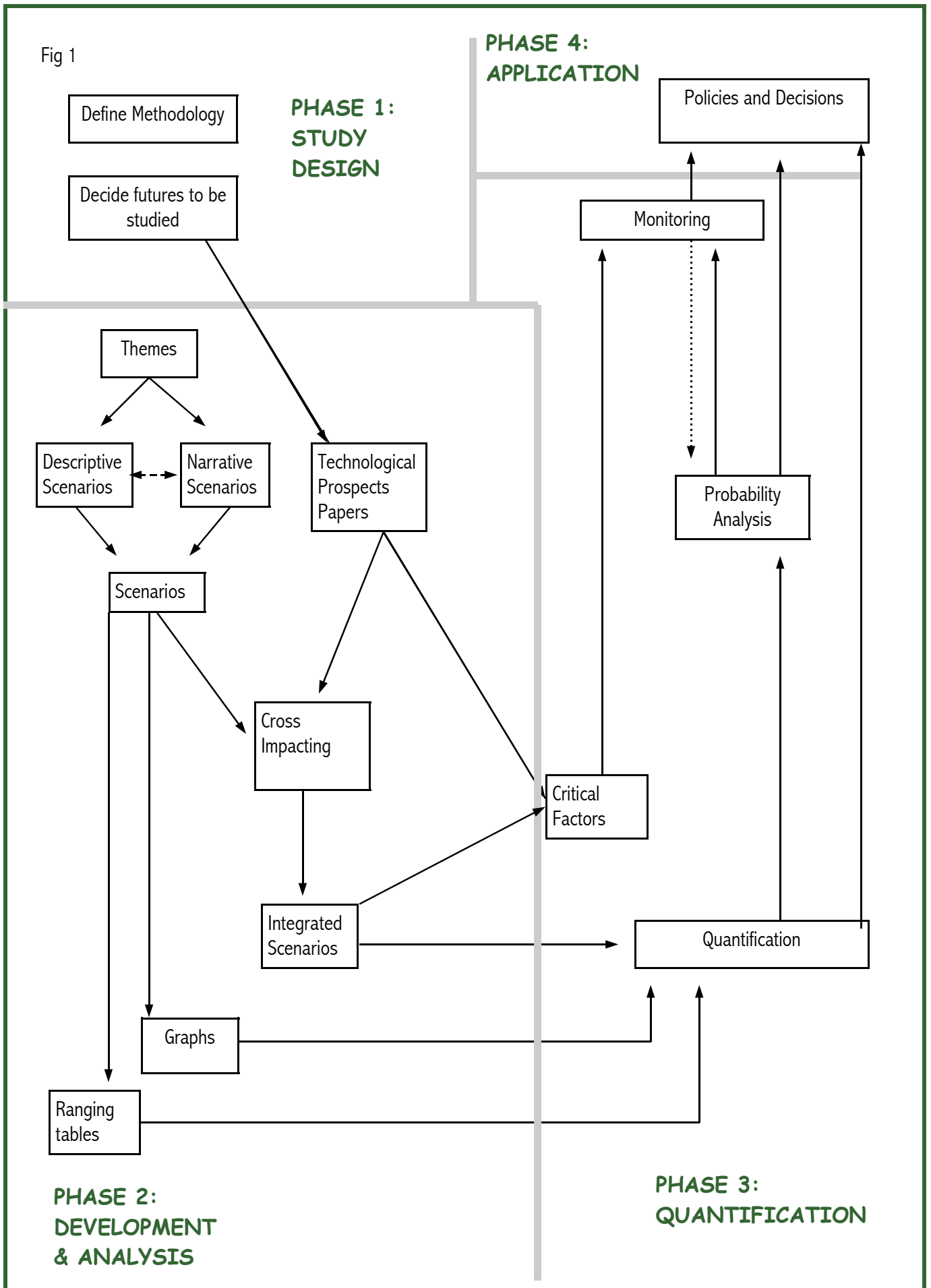
It was to provide background information for longer-term transport policy advice that the South Australian Department of Transport undertook a strategic examination of alternative transport futures. The assumption that tomorrow will be similar to today, next year similar to this year, and the coming decade like this decade was regarded as only one possibility, and the approach adopted was to assume that there exists a range of different and unique futures, each represented by a scenario, which differs in its probability of being realized. The year 2010 was chosen for the scenarios because it is far enough ahead to enable significant changes to occur but not too far as to make planning irrelevant.”

“Policy analysis

was obviously an important component of the South Australian transport study, but it was considered that highlighting social, economic, and technical change was equally important, as was speculating about quite radical changes in the environment in which transport systems would be operating in the future.

Some futures for South Australia could be similar to a straight-line extrapolation of present-day social, economic, political and technological trends. Others could be very different. As an extreme case, it is possible to contemplate a future in which artificial intelligence is perfected, where

Fig 1



machines are capable of thinking and communicating as well as or better than humans; or a future in which matter can be teleported across space. While such technological advances seem improbable, if they were to occur the environment in which transport systems would have to operate would be radically different from the present environment.”

“It is impossible and unnecessary to examine every conceivable future in detail.

In the study consideration was first given to selecting the futures that should be examined and how the study would progress. The methodology finally adopted is shown in Fig 1. It is a four phase approach: study design; development and analysis; quantification; and application.

Scenario Planning—A 4 Phase Process

Phase 1 Design

This involved preparation of an outline of the methodology to be used in the remainder of the study and deciding which futures should be examined... Over 20 futures were originally considered, some were rejected because of their irrelevance to transport planning (“Earth – a radio active slag heap”) and others because of low probability of occurrence (“The Anarchist Society”). ... Although the labelling of the axes and the exact location of some futures is contentious (fig 2), this representation enabled several futures to be eliminated [because they had similar trends]. Themes reduced to 8. The themes were written from the viewpoint of an observer in the year 2010 and outline the future environment and how it evolved from the early 1980s.

Phase 2 Development and Analysis

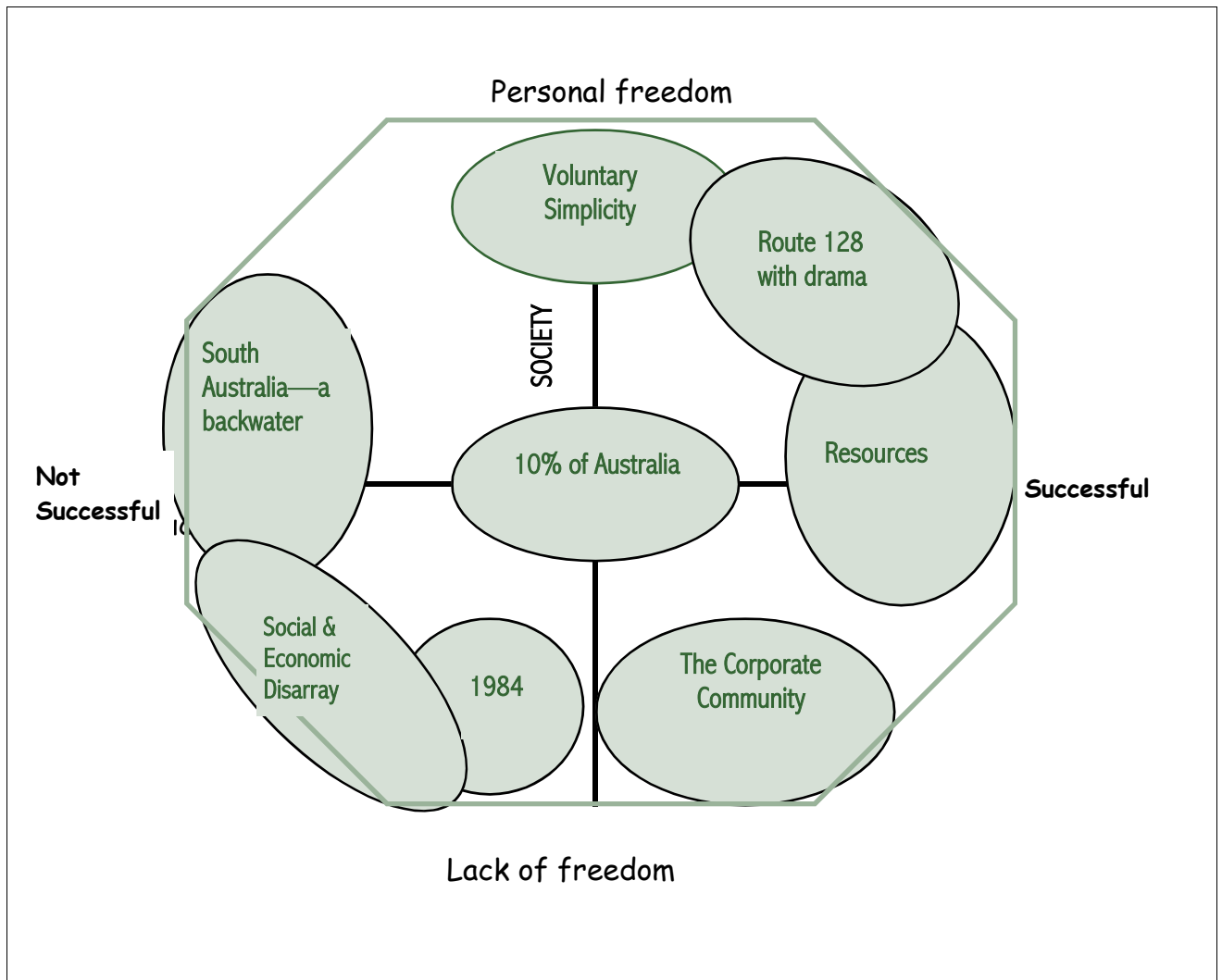
See pp 619-622 for a short description of three and an even shorter description of the remaining five scenarios in the SA Transport Study.

Phase 3. Quantification

“This put numerical values to both scenarios and the technologies. This phase also tested the outcomes on a range of respondents from all around Australia ‘all broad thinkers, some with technology backgrounds, some without, chosen for their interest in the future or in transport. Five questions were posed:

- Which features of each scenario are necessary to its emergence?
- Which features are unique to each scenario?
- Which observable events would give an early warning of the emergence of each scenario and how could these events be monitored?
- Rank the scenarios in order of probability and assign a percentage probability
- Select technologies which would be most significant in each scenario”

Phase 4 Application - testing policies and decisions against the scenarios



“10% of Australia”

Historically South Australia has been a ten percent sample of Australia with, for example, 10% of the nation’s population, GNP, unemployment, manufacturing output and agricultural production. The “10% of Australia” future (in the centre of Fig 2) assumes that this relationship holds into the future. This future is constructed to represent the “surprise-free” future for both South Australia and Australia when viewed from the perspective of the late 1970s and early 1980s.

In this SA of the future, governments change but infrequently and the two major political parties pursue similar policies. Governments remain mildly conservative and pragmatism replaces ideology. In line with the rest of Australia, the State population grows at an average of about 1% per annum to reach 1.75 million by 2010 (compared to 1.3 million in 1980); urbanisation of the population remains at about 72%.

The strong work ethic of the 1970s persists, though hours of work decline to 30 hours a week. There is some unemployment. Both health and education are provided free, health care giving emphasis to preventative care and curative drugs and education concentrating on vocational training.

As in the rest of Australia, natural resources are exploited for export overseas, though for South Australia the manufacture of consumer goods remains important. A broad range of goods are both imported and exported, facilitated by the removal of tariff protection and quotas.

The trade union movement remains strong but there are a few instances of major confrontation between employers and employees. The media is still controlled by a few large organisations. The main energy sources are coal and solar with some oil and natural gas. The development of water resources has kept pace with demand but a rational water pricing policy has been introduced.

“Social and Economic Disarray”

This is a future in which both the economy and the social and political systems malfunction in South Australia. Governments change frequently, their conflicting policies are magnified by time lags within the economic system and contribute to poor economic performance and instability.

Because of negative population growth and a slow population drift interstate, the population of SA falls slightly to 1.25 million. Those who leave SA do so because conditions are slightly better interstate though the other states are now only accepting migrants with skills that will be useful to them. In SA population has gravitated from the smaller rural centres to Adelaide. Despite this the outer urban areas of Adelaide are in decay because of inadequate public transport and the high cost and low availability of petrol. Inner urban density has significantly increased.

Medical services are poor, leading to major health problems, mainly as a result of poor sanitation. Fees are charged for tuition – a good education has once again become the prerogative of the wealthy.

Resource development is handicapped by lack of investment capital. Major exports are rural products (beef, mutton and cereals), mopeds and bicycles, and some white goods, though demand for these is depressed. The major import is oil.

Unions are militant and strikes and lockouts frequent. Because of the under strength police force, vigilante organisations have been formed within communities. Water is in short supply during hot summers.

Social stresses are high but strong, mutually supportive extended families and self-help groups have developed. Unemployment is high, vandalism rife but, because of lower expectations, resignation has replaced dissatisfaction.

“Route 128 with Drama”

In “Route 128 with Drama” SA acquires world pre-eminence in scientific research, advanced technology and cultural activity. Life is rational, highly competitive, non-spiritual and materialistic. Family life is unpopular and individualism rates highly. Population grows to 2 million, mainly through immigration, with 77% of the population concentrated in Adelaide.

Because of the economic activity there is full employment; the standard working week is 25 hours though many researchers and executives work many hours of unpaid overtime.

The education system, including universities, is free but very competitive. Health care is based on fees for services and uses advanced technologies and computer-based diagnosis.

Tourism is one of the State's major industries, spectator sports a popular form of entertainment and the State orchestras, opera and ballet internationally acclaimed. Adelaide is a cultural centre of world renown.

The manufacture of high technology goods is the mainstay of industry, with intense research and development activity. Many high-tech international companies have located their main R&D efforts in Adelaide.

The social democratic Government is stable, with any excesses being corrected by instantaneous referenda.

The other themes were:

“Resources” which stresses a future in which the development of South Australia's natural resources is given a high priority, though in the process society becomes stratified between an affluent and powerful minority who live ostentatious, busy and mobile lives, a middle income majority who live well and aspire to the standards of the affluent, and a poor minority who live in poverty in camps on the fringe of development areas or in city slums.

In **“South Australia – a Backwater”** SA stagnates economically while the rest of Australia prospers. Within SA shortages of investment funds limit resource and industrial development while manufacturing is handicapped by transport costs. Against this, and in contrast to the rest of Australia, family life is strong and stable and the education system, with dedicated though poorly paid staff produces well rounded individuals with strong personal and ethical values and a desire to work hard and well.

“Voluntary Simplicity” represents a communal society. The five fundamental values in this society are a commitment to material simplicity, the recognition of the importance of the human scale, a belief in self-determination, the necessity of ecological awareness, and the importance of human growth. Caring and sharing replace owning and doing; there exists a high degree of fulfilment.”

“Corporate Community” represents a future in which most of the traditional functions of government, such as electricity supply, water and sewerage, road construction and maintenance, are undertaken for profit by large corporations. Public transport is run by private enterprise and, although the legal system and police forces are still state funded and controlled, the prisons have been privatised and are run on a profit making basis—the facilities available in penal institutions depending upon the money that the prison inmate is prepared to pay to the prison company; it varies from luxury hotel standard for the wealth to forced labor for the poor who cannot afford to pay for their accommodation.”

“1984” is a future in which Australia becomes a totalitarian nation with economic ties to the Communist block. A left wing Government has absolute control of the Australian economy and armaments production is concentrated in South Australia, becoming the State's major industry. Social life is strictly controlled by the Party. Family size is limited—abortions are compulsory if a permit for a child has not been granted. Movement is strictly regulated and monitored by means of a surgically implanted identifier. The aged and infirm are encouraged to emigrate interstate except for those who have had access to sensitive material. They are transferred to retirement camps in

Technological Prospects and Cross Impacting

Fourteen technologies were identified as necessary for the cross- impacting because of their relevance to South Australia or to transport system development – energy, communications, construction techniques, materials, computing, water, agriculture, minerals, medicine, pipelines, air transport, sea transport, road vehicles and guideway transit. Each of the technological prospects papers describes the present position of the technology under review, the current momentum for change, known plans and developments, technical, economic and social factors for and against change and a technological prospects statement.

As a simplifying assumption, the technological prospects papers were prepared on the premise that changes in technologies will be independent of the social, economic and political environment. This is incorrect but [is] rectified in the cross-impacting stage of the study.

The cross-impact analysis in Phase 2 will examine each scenario within the confines of each technology, each technology within each scenario and the way that the technologies interact with each other within the confines of each scenario. This analysis is critical to the success or failure of the approach. Areas of positive and negative reinforcement are identified for feedback into both scenarios and technological prospects papers. By this means the interactions between the social, political and economic environment of each scenario and the technological changes expected in the next 30 years will be accommodated, allowing preparation of integrated scenarios.

Delphi techniques are used for cross-impacting, with a panel of experts drawn from various professions and backgrounds being asked to comment on and assess likely impacts.

Application to Transport Policy Formulation

Transport is not an end in itself, nor are the scenarios and technological prospects papers in this study. They are tools to assist in the formulation of policy advice and are considered in this context in the final phase of the study.

If a given policy is applicable to a particular scenario or group of scenarios, and the probability of occurrence of that scenario or scenarios is high, then that policy or change in direction can be recommended with reasonable confidence. If, however, a policy or programme is applicable in only one scenario with a low probability of occurrence, further examination of the policy is warranted. It may be possible to discard policies from further consideration.

It may also be possible to identify when, why and how policies may be implemented to achieve a given end state, creating opportunities to actively influence our future rather than passively awaiting for events to control us.

Whether, in the final analysis, the techniques described here are successful or unsuccessful, the most important output of the study process will have been to educate policy makers, planners and others of the fact that the future is not fixed and defined. The future environment will be different from today's and as the environment changes so too will the demands placed upon transport services. If some thought, however little, is given to future operating environments then hopefully rational and more effective decisions on transport will be made today.