

## **Social Aspects of Australian Roads**

### **Occasional Paper**

This Paper presents a preliminary assessment of the social aspects of the Australian road system. The focus of the research undertaken for this Paper was on examining a number of complementary approaches that could be utilised to identify and assess the overall social dimensions of roads. For the purpose of extending this conceptual accessibility and proximity framework on a practical level, the study sought to identify the subjectively perceived attributes of roads and determinants of their quality, and the types of changes which they may undergo and which affect their role.

Subject

Series

Date

A to Z

Search

Results

Print

Exit

Occasional Paper 68

# **Social Aspects of Australian Roads**



**Bureau of Transport and Road Research**

© Commonwealth of Australia 1985

ISBN 0 644 03932 9

ISSN 0157-7085

Printed by Canberra Publishing and Printing Co., Fyshwick, A.C.T.

## FOREWORD

In May 1982 the then Minister for Transport directed the Bureau of Transport Economics (BTE) to undertake an assessment of the Australian road system. The Bureau had reported previously on the subject in 1979 and similar reports were prepared by the former Commonwealth Bureau of Roads in 1969, 1973 and 1975.

In satisfying the Ministerial Terms of Reference a number of discrete but related investigations were carried out. Each investigation has been reported in separate BTE publications in support of the main BTE Report 56 *Assessment of the Australian Road System: 1984*.

This Paper presents a preliminary assessment of the social aspects of the Australian road system. The focus of the research undertaken for this Paper was on examining a number of complementary approaches that could be utilised to identify and assess the overall social dimensions of roads.

Details of the source materials used, the questionnaire form and the analysis of survey results are contained separately in BTE Reference Paper No 96.

This Paper was prepared in the Social Factors Section by Ms R. Bradley and Messrs M. Kunz and D. Wellfare.

The assistance given to the Bureau in undertaking this project by various State and local government agencies, private organisations, community groups and individuals is acknowledged.

R.W.L. Wyers  
Assistant Director  
Special Studies Branch

Bureau of Transport Economics  
Canberra  
May 1985

## CONTENTS

|           | Page                                    |
|-----------|-----------------------------------------|
| FOREWORD  | iii                                     |
| SUMMARY   | ix                                      |
| CHAPTER 1 | INTRODUCTION                            |
|           | Scope                                   |
|           | Approach                                |
|           | Outline                                 |
| CHAPTER 2 | CONTEMPORARY ISSUES                     |
|           | Print media search                      |
| CHAPTER 3 | INTEREST GROUP VIEWPOINTS               |
|           | Accessibility                           |
|           | Proximity and other externality effects |
| CHAPTER 4 | COMMUNITY VIEWPOINTS                    |
|           | Wollongong search conference            |
|           | Tumut search conference                 |
|           | Summary of community viewpoints         |
| CHAPTER 5 | THE ATTITUDE SURVEY                     |
|           | Pilot test                              |
|           | Funding                                 |
|           | Attitudes to private motor transport    |
|           | Use of vehicles and roads               |
|           | Accessibility                           |
|           | Proximity                               |
|           | Road closures                           |
| CHAPTER 6 | CONCLUDING REMARKS                      |
|           | Print media search                      |
|           | Survey by letter                        |
|           | Search conferences                      |
|           | Attitude questionnaire                  |

|             |                              |            |
|-------------|------------------------------|------------|
| APPENDIX I  | INTEREST GROUP CONTACTS      | Page<br>43 |
| APPENDIX II | SEARCH CONFERENCE ATTENDANCE | 47         |
| REFERENCES  |                              | 49         |

## TABLES

|                                                                                  | Page |
|----------------------------------------------------------------------------------|------|
| 2.1 Newspaper articles, by type of issue                                         | 6    |
| 3.1 Institutional views, by type of social aspects of Australian roads           | 14   |
| 5.1 Pilot sample, by survey area                                                 | 29   |
| 5.2 Additional budget allocations, by type of service                            | 31   |
| 5.3 Reduced budget allocations, by type of service                               | 32   |
| 5.4 Attitudes to private motor transport, by survey area                         | 33   |
| 5.5 Private transport trip purpose, by road type                                 | 34   |
| 5.6 Opinion of roads, by survey area and road type                               | 35   |
| 5.7 Concern about safety on roads outside the home, by survey area and road type | 37   |
| 5.8 All reasons for moving, by survey area                                       | 38   |
| 5.9 Attitudes to permanent closure of minor through roads, by survey area        | 38   |
| I.1 Organisations contacted and responding to letter survey                      | 43   |

## SUMMARY

In May 1982 the then Minister for Transport directed the BTE to undertake an overall assessment of the Australian road system. The Social Aspects of Australian Roads study was carried out specifically in response to the Minister's invitation to the BTE to examine any matters other than those relating purely to economic performance and financial aspects considered relevant to this assessment.

The conceptual framework of this study was initially constructed around the concepts of accessibility (quality of access as perceived by road users) and proximity (externality effects as experienced by non-users). To identify the practical nature and dimensions of this framework and to extend it further, the initial stages of the study developed along three complementary lines: a search of newspaper articles, a survey of interest groups and search conferences in Tumut and Wollongong. This extended framework then served as a basis for an attitude questionnaire, to assess the views of road users and non-users on the adequacy of the current road system.

The main issues that emerged from these lines of inquiry were road funding, road standards and traffic volumes, and their interrelationship with the perceived quality of access. Proximity effects, particularly those due to heavy coal trucks, featured prominently in the Wollongong search conference but, according to the attitude questionnaire results, did not appear to be major issues and their limited incidence was confined to urban areas. It was also evident that the opinions and attitudes of individual respondents in search conferences and expressed through the questionnaire avoided the extremes of position frequently adopted by special interest groups and in newspaper articles.

Due to resource constraints, the questionnaire itself did not progress beyond the pilot testing stage and results should be treated with caution. Nevertheless, it was concluded that the social aspects of roads can be meaningfully examined using a questionnaire approach, provided that the dimensions of the relevant issues are reliably



identified in the first place. In this context, care must be taken, however, to separate purely parochial concerns from more generally applicable road issues.

## CHAPTER 1-INTRODUCTION

The main objective of this study was to develop and test alternative methodologies for investigating the 'social aspects' of Australian roads. At the outset it was recognised that social aspects could not easily be separated from economic considerations.

In the past, road programs were evaluated largely in terms of general economic and engineering criteria without considering in detail the broader social and community implications of such programs. Emphasis in research was traditionally placed on the function of the road system as an essential component of the nation's economic infrastructure. Investigation of its less tangible, but potentially no less important impact upon the social well-being of individuals and communities tended to be neglected. However, the last decade has seen the development of an awareness of the need to identify social ramifications of road system changes which are affected by government policy and associated expenditure decisions.

One reason for the heightened awareness of the social dimension of roads is the pressure from community groups to establish social priorities for specific road proposals. The most visible evidence of this trend has been the resistance encountered by freeway proposals in metropolitan centres (notably Sydney, Melbourne and Adelaide) where new major roads were seen as threats to inner city communities. On the other hand, the social priorities argument has also been used to advocate the spending of money on roads in areas where it could not be justified on economic grounds, for example, in isolated communities.

### SCOPE

The expression 'social aspects of roads' refers mainly to the direct accessibility and externality effects of changes in the structure and use of road systems on individuals and groups. This is not to deny that indirect effects also exist, but merely to indicate that the study was limited to the more readily identifiable aspects.

The conceptual framework used in this study views the relationship between road network conditions and social well-being in terms of accessibility and proximity. These concepts may be defined as follows:

- . *Accessibility* refers to the effect a road system has upon the directness and ease with which people can travel between (and therefore exploit or interact with) different activity nodes. Intrinsically, roads function to permit physical access to nodes such as those accommodating community services, social contacts or employment opportunities. Moreover, improved accessibility yields benefits in terms of shorter travel times and lower transport costs. However, there may be instances where a road actually *inhibits* accessibility for some groups as, for example, when a freeway or even a congested urban arterial road divides a community.
- . *Proximity* refers to the physical position of a residential site (or some other centre of activity relevant to a particular social unit) relative to the road system. Negative or positive externalities may arise from proximity depending upon how the road system impinges upon households (or organisations) *in situ*. *Negative externalities* occur when road conditions are instrumental in exposing people to hazards and irritants (such as noise pollution or traffic intrusions) or to economic disadvantages such as home value depreciation. *Positive externalities* may be experienced, for instance, when the environmental amenity of a neighbourhood is enhanced by changes to the local road system which cause intrusive through traffic to be diverted elsewhere. Improved proximity may also work in some instances to enhance business demand and associated capital values.

For the purpose of extending this conceptual accessibility and proximity framework on a practical level, the study sought to identify the subjectively perceived attributes of roads and determinants of their quality, and the types of changes which they may undergo and which affect their role.

## APPROACH

From the beginning, it was thought appropriate to aim for a comprehensive survey of the attitude of road users and other affected parties. To determine accurately the specific contents of an appropriate questionnaire for such a survey, the initial stages of the

study developed along three complementary lines to give substance to the conceptual framework outlined previously:

- . organisations and groups who are in some way dependent upon or affected by roads were invited by letter to contribute what they saw as important issues related to the social aspects of roads;
- . a search of road-related newspaper articles was conducted; and
- . exploratory search conferences with community groups were held in Tumut and Wollongong, with the intention to elicit informal discussions of road issues.

Based on a summary of the information obtained from these specific sources, a questionnaire was then constructed to determine the general population's attitudes and perceptions with respect to roads. This questionnaire was pilot tested by formal interviews in Sydney, Wollongong and Tumut to assess its suitability for a wider survey.

## OUTLINE

The search of newspaper articles highlighting road issues, conducted on the News Limited clippings library and the Department of Transport news summary service is summarised in Chapter 2. The different groups who expressed special interest in the Australian road system as revealed by the print media search, were then invited by letter to contribute their views on the social aspects of roads. Results are summarised in Chapter 3. Chapter 4 discusses the viewpoints of broader community groups with respect to the way roads affect the lives of people and communities. Chapter 5 presents some tentative results from the pilot survey of the attitude questionnaire, which was based on the print media search, the letter survey and community group discussions. The final chapter reviews the overall approach adopted by the study.

## CHAPTER 2-CONTEMPORARY ISSUES

This chapter deals with contemporary road-related issues as reported in the print media. The assumptions were that a topic which was frequently reported was a matter of public concern and the more controversial the issue or the more conflict it generated, the more likely it was to remain a subject of interest to the print media. The search of newspaper articles showed that road-related topics could not be confined to the postulated accessibility and proximity framework. It also highlighted the profusion of groups who appeared to have a special interest in the Australian road system.

Historical analysis shows that roads have always been essential communication and economic links in Australia, from the Aboriginal 'pituri' roads to the modern freeways of today. Moreover, in a vast, sparsely populated country like Australia, roads were always destined to be expensive on a per head of population basis. Responsibilities for roads varied from colonial government, local Road Trusts and State governments, to Commonwealth Governments, with the latter assuming from time to time control of some road programs. The issues involving road funding and road standards remain active. Although funding arrangements are more formalised today, the amount of funding needed is still subject to dispute and depends heavily on the standard of roads that is deemed acceptable by different sections of the community and on the question of who is to pay for them.

### PRINT MEDIA SEARCH

The purpose of this chapter is to outline those road issues that recur in the press, not to judge their rationality or accuracy. Unless otherwise stated, the material presented is drawn from a cross-section of Australian newspapers and related publications. The discussion does not reflect the BTE's viewpoint or interpretation of the rationality of the arguments.

The search for articles focussed on two sources:

- . News Limited's clippings library, which listed 1312 articles on road-related subjects under 11 separate headings for the period 1969-1981; and
- . the Commonwealth Department of Transport's news summary service, which listed 382 relevant articles in the period 1980-1983.

This selection inevitably emphasised eastern State city and urban newspapers, with a heavy concentration on New South Wales and, in particular, Sydney papers. The two sources covered 109 identifiable publications yielding 1694 articles on roads under 11 major headings (see Table 2.1 and BTE 1985). Road accidents were not included in the search as a separate category.

Individual references will not be cited and the material subsumed under each heading is described by summarising the argument only as it was reported in the various sources.

### **Funding**

Road construction and maintenance funding was presented in the papers mainly as a disagreement over how much responsibility is borne by each

TABLE 2.1-NEWSPAPER ARTICLES, BY TYPE OF ISSUE

| <i>Issue</i>           | <i>Number of<br/>articles</i> | <i>Per cent<br/>of total</i> |
|------------------------|-------------------------------|------------------------------|
| Funding                | 450                           | 27                           |
| Freeways               | 347                           | 20                           |
| Road standards         | 211                           | 12                           |
| Urban traffic problems | 201                           | 12                           |
| Upgrading              | 195                           | 11                           |
| Trucks                 | 98                            | 6                            |
| Road planning          | 47                            | 3                            |
| Flood closures         | 43                            | 3                            |
| Public transport       | 41                            | 2                            |
| Employment             | 37                            | 2                            |
| Industrial development | 24                            | 1                            |
| Total                  | 1 694                         | 100                          |

*Source:* BTE (1985).

of the three levels of government. Criticism of perceived inadequate funding levels generally outnumbered announcements of increased funding, focussing on the Federal Government's apparent disregard of the nation's roads needs. State and local governments, automobile and other road user associations invariably accused the Federal Government of withholding funds which, reportedly, belonged to the Australian community in the form of better roads.

Between 1969 and 1973, reports concentrated either on the Commonwealth Governments' recommendations that registration fees and road tolls be increased to supplement existing road funds, or they identified the impact of inflation eroding the value of construction and maintenance budgets.

From the mid-1970s, articles on funding increasingly criticised the cut in Commonwealth funds in real terms. Road material prices rose dramatically and it was consistently claimed that allocations did not reflect these increases. In 1979-80 the Commonwealth Government introduced a five-year funding scheme, offering the States annual increases of between 11.1 per cent in 1980-81 to 6 per cent in 1984-85. These increases were strongly attacked by the States as too small, with claims for special considerations forthcoming:

- . South Australia objected to its small share of road funds on the grounds that its road problems were relatively as severe as those of New South Wales and Victoria.
- . Tasmania claimed additional funds as compensation for its lack of a land-link with the mainland.
- . Western Australia called for a marked increase in funds since it earned a substantial percentage of the nation's exports, most of it from remote areas depending heavily on roads, and Canberra was accused of overlooking the need for road development and the associated social and economic benefits.
- . In New South Wales, the National Roads and Motorists' Association (NRMA) published figures which purported to show that the Commonwealth Government was returning only a fraction of the funds to the States that it collected from road users via fuel taxes.

Criticism of the Commonwealth Government lessened somewhat with the proclamation of the *Australian Bicentennial Road Development Trust Fund Act 1982*.

## **Freeways**

By the early 1970s it appeared that freeways had effectively polarised Australian urban society into those people who liked to drive on them and those who did not want to live near them. On the one hand, freeways were claimed to offer smoother travel, free of the stop-go characteristic of much of urban traffic in Australia, and to have lowered the number of accidents and transport costs. On the other hand, they were also held responsible for the enforced relocation of people, the demolition of houses and the despoliation of the natural landscape. This division of public opinion was volatile: when State governments announced plans for a freeway development or postponement, there were frequent reports of streets being blocked, public meetings being organised and protestors being gaoled.

In the early 1970s the Federal Government discouraged urban freeway construction in favour of upgrading public transport and investment in urban priority road networks to speed up traffic flows. By the mid-1970s the newspapers reported that the New South Wales and Victorian Governments had already forcibly curbed their freeway planning due to Federal Government fund cuts, much to the chagrin of motoring, commercial development and distribution interests. For example, the NRMA in New South Wales strongly promoted urban freeways as the only solution to urban traffic problems, claiming that traffic chaos was caused by only partly completed freeways and poor freeway access.

## **Road standards**

According to the newspaper articles surveyed, the standards of Australian roads were often judged to be some of the worst in the world. This judgement was supported by reports of repeated accidents at specific sites. Surveys conducted by automobile associations also indicated that accident rates could be directly related to road standards, specific roads having been designated as 'killers' or 'death highways'. In most cases this was attributed to their narrowness, lack of passing lanes, inadequate signposting and sharp curves. On the other hand, several highways, too, had acquired a bad reputation after upgrading, due to their qualities which encouraged speed, reckless driving and purported 'highway hypnosis'.

All levels of government, along with motorists, trucking and other road user associations, acknowledged that a lot of roads were sub-standard. The alleged solution revolved around funding, with responsibility for improving road standards and the subsequent reduction in accidents perceived to be resting with Commonwealth fund



allocations. For example, press reports suggested that the Hume and Pacific Highways were the worst roads in Australia. It was estimated in both 1978 and 1980 that if the Hume Highway were to be upgraded to an acceptable standard, hundreds of accidents and deaths could be prevented each year.

### **Urban traffic problems**

Reports of urban traffic problems highlighted congestion and the consequently lowered level of accessibility experienced by the city dweller. In one attempt to ease congestion in Sydney, experimental transit lanes were introduced in 1975. Buses and cars with three or more occupants were given priority on the inside lanes of main roads, with other vehicles excluded. This was to encourage the use of public transport and the practice of car-pooling.

Clearways were also used to ease congestion but were found to create new difficulties. Although supported by motorist organisations and the general public, commercial and retail interests strongly opposed clearways for fear of loss of business. In addition, with increasing congestion on arterial roads, traffic invariably over-flowed into residential areas, prompting local councils to implement traffic management schemes to preserve their neighbourhoods. Even these attempts met with opposition.

### **Upgrading**

News articles on upgrading centred mainly on local upgrading requirements, but all levels of government reportedly perceived Australian roads to be sub-standard and to require immediate and concerted attention. Similar sentiments were expressed by automobile associations and the public. Federal funding constraints were principally blamed for the general lack of upgrading and rural local governments frequently claimed that, of the little money available, too much was being spent on upgrading urban roads at the expense of rural roads.

### **Trucks**

The newspapers' description of trucks was of dangerous, noisy, fast-moving vehicles dominating other traffic on both narrow streets and highways. Although recognised as a vital element of Australian transport, the trucking industry was held responsible for most road damage, due to overloading and speeding, and was accused of general negligence, often leading to disproportionately high rates of road accidents compared with the private car.

### **Flood closures**

There were a number of reports of recurring flood problems, but it was also pointed out that few roads in Australia were completely free from flood hazards. Urban roads closed by flooding cause considerable traffic chaos: a number of large traffic jams were reported whenever Sydney experienced heavy rainfalls. More seriously, rural floods often left motorists stranded for long periods and occasionally isolated resident and travellers required emergency food drops.

### **Public transport**

Newspaper articles stressed public transport's importance in urban environments and pointed out that funds allocated to this sector depended on specific government policies and orientation. Labor governments, in particular, were reported to be concerned with public transport, allocating increased funds to it and attempting to shape demand by restricting private motor transport.

Public response, however, invariably focussed on public transport's unreliability, its cost and its susceptibility to sudden industrial stoppages.

### **Employment**

Since the introduction of the ABRD program in 1982 and the Jobs on Local Roads (JOLOR) program in 1983, employment and road construction have often been closely related. Newspaper articles, however, have pointed out that promised local employment prospects due to road construction projects would not always be as bright as they initially appeared to be.

### **Industrial development**

The newspaper articles highlighted two complementary themes. On the one hand, urban industrial growth, especially in Sydney and Melbourne, was reported to have generated extraordinary traffic volumes which were choking the cities. On the other hand, construction of roads into isolated areas was expected to facilitate their economic development.

Sydney papers carried a number of reports of the city's continual traffic and road 'crisis'. Industrial development in the inner suburbs had been 'choked off' and, in the outer suburbs, was limited by the high cost of transport. As a consequence, Sydney was thought to be losing employment opportunities to less congested cities. To a

lesser extent, the same comments were also made about Melbourne. The 'roads to isolated areas' argument usually stressed the high rates of return on the initial investment in road construction.

## CHAPTER 3-INTEREST GROUP VIEWPOINTS

The previous chapter's review of matters frequently reported in the print media provided a broad guide to public opinion on road issues. However, in order to gain a fuller appreciation of the social aspects of Australian roads, the views and opinions of road users and other interested parties associated with road usage in Australia needed to be considered. For this purpose, the BTE canvassed 62 organisations by letter (see BTE 1985), seeking views on the social aspects of the Australian road system. Particular attention was paid to obtaining the views of a cross-section of organisations representing automobile associations, local, State and Commonwealth Government, chambers of commerce, road safety councils, unions and parties concerned with public transport, retail and rural matters (see Appendix I).

From the groups contacted, 19 replies were received. The issues raised are detailed in Table 3.1. The following discussion presents a summary of these viewpoints and opinions. This discussion does not, however, reflect the BTE's point of view. The general conclusion to be drawn from this letter survey is the recognition that accessibility for some can only be achieved at the expense of other sections of the community. However, the desire to minimise social costs was also clearly expressed by affected groups.

### ACCESSIBILITY

From the responses it was clear that accessibility and mobility (whether for social or economic purposes) were paramount issues in the discussion of the social aspects of Australian roads. Within the general area of accessibility and mobility, a number of issues were raised:

- . accessibility to goods and services;
- . mobility and choice of where to live;
- . social interaction in urban and rural areas; and
- . quality of life.

TABLE 3.1-INSTITUTIONAL VIEWS, BY TYPE OF SOCIAL ASPECTS OF AUSTRALIAN ROADS

| <i>Issue</i>                                        | <i>Frequency</i> |
|-----------------------------------------------------|------------------|
| Right to access and mobility <sup>a</sup>           | 15               |
| Social costs - accidents, safety, pollution, stress | 9                |
| Congestion                                          | 9                |
| Freeways                                            | 6                |
| Competing road uses                                 | 4                |
| Road funding                                        | 4                |
| Aesthetics of roads                                 | 4                |
| Public transport                                    | 2                |
| Defence                                             | 1                |
| Rationalisation of road regulations                 | 1                |
| Competition with rail                               | 1                |
| Road standards and vehicle costs                    | 1                |

a. Includes access to property and services, choice of where to live, reduction of social isolation, and quality of life.

Source: BTE (1985).

Respondents claimed that the widespread availability of the motor vehicle in the post-war period, in association with lower land costs in outer suburban areas and inadequate public transport within these outer areas, had changed the focus from an urban to a more dispersed pattern of both employment and service development within cities. This, in turn, permitted an increased choice of residential location and thus increased the mobility of the Australian population overall.

A number of respondents recognised the need for access within cities to be unhindered and for the development of a free flowing and convenient road system. However, two main factors, were seen to prevent this outcome:

- existing road systems in a number of capital cities were built to meet the needs of outdated modes of transportation (for example, horse and buggy transport); and
- road networks in the outer suburbs of a number of capital cities were initially designed to serve rural communities and are now deteriorating, with urban expansion and changing land use patterns placing an increasing burden on the road system.

Respondents reported that the suburbanisation of population, dwellings and business activity and the subsequent increased demands on the road

network have also resulted in changes in road usage and increased traffic congestion within urban areas. Motorists looking for the shortest journey time in preference to the shortest distance to their destinations have led to an intrusion of traffic into residential environments. At the same time, residents within these areas have attempted to exclude the effects of traffic interference from their residential environments by erecting physical barriers (for example, high front fences). Consequently, the intrusion of traffic has contributed to increasing social isolation within residential areas. Respondents expressing an opinion on this issue generally considered that there was a need for advanced traffic management planning to avoid the effects of through traffic on residential environments. While recognising the need for improved accessibility to both property and services, it was suggested that governments preserve the amenity of residential and other land as far as practicable.

Another area of interest was the perceived social role of roads in rural areas. In rural areas, roads promote the economic viability and self-sufficiency of rural communities by creating opportunities for employment. Some respondents alleged that this helped to arrest the population drift to urban centres, and led to the strengthening and maintenance of local social networks and community structures. The paradoxical situation arose, however, with other respondents claiming that improved access to large regional centres encouraged rural dwellers to leave their farms and move into town.

#### PROXIMITY AND OTHER EXTERNALITY EFFECTS

This section briefly summarises proximity and other externality effects of road system development, with respect to social costs, freeways, competing road uses and other perceived issues.

##### Social costs

A number of interest groups emphasised the negative externalities arising from proximity to the road system. Noise and air pollution and the resulting drop in property values were cited as particularly severe examples of proximity effects. On a wider scale, concern was also expressed about the costs to society of traffic accidents, and the stress imposed by the urban driving environment. Respondents suggested that more emphasis be placed on educating road users on the importance of these issues and that future planning take into consideration interests of safety and quality of life.

Traffic congestion was seen by a number of respondents as contributing

to social costs such as pollution, diminished amenity, stress and reduced mobility and accessibility. It was suggested that some traffic management schemes (for example, road closures) could add to, rather than control, congestion. In fact, respondents argued that many road closures and traffic management schemes increased traffic congestion on main roads to the detriment of residential environments and commercial viability along major traffic routes. It was also thought that peak hour traffic hazards could to some degree be reduced by the introduction of staggered working hours.

### **Freeways**

There was considerable variation among respondents with respect to the desirability of freeway construction. On the one hand, it was suggested that freeways increase safety, reduce pollution and fuel consumption and remove traffic from suburban streets and congestion from residential and commercial areas. On the other hand, freeways were said to destroy the aesthetics and residential amenity of the urban environment, to create traffic congestion on feeder roads and to use up valuable land, often resulting in urban blight.

### **Competing road uses**

Some attention focussed on the conflict which arises from the competition for road space. It was argued that competition for road space creates conflict among various road users and uses:

- . trucks transporting goods and services versus the commuting or recreational motorist;
- . shop owners relying on passing traffic and the motorist's preference for clearways;
- . residential environment quality and household accessibility versus traffic congestion and street parking; and
- . general conflict between truck drivers, cyclists, pedestrians, residents, motorists and retailers.

Suggested solutions varied from the building of more freeways, advocating through traffic in residential areas, declaring more clearways, getting goods off trucks and onto rail, to closing local roads and preserving residential amenity.

### **Other issues**

It was felt that sufficient finance needed to be allocated to enable authorities to develop and maintain urban and rural roads capable of

copied with current and future transport demands, and of minimising their negative impacts on the environment. A few respondents suggested that greater attention be directed to the aesthetics of road design; for example, the role played by roadside trees in shaping the road environment. Vegetation clearance, dust control, embankments and other roadside features were also considered important.

Public transport, defence, State government regulations, competition with rail, road standards and vehicle costs, together with ongoing research and improved planning, were also issues raised by individual respondents as important to the examination of the social aspects of roads.



## CHAPTER 4-COMMUNITY VIEWPOINTS

The themes emerging from the preceding two chapters have been those of conflict between competing pressure groups for increased accessibility to road space, and of calls for a reduction of negative proximity and other externality effects.

In an effort to determine community rather than only special interest group viewpoints on these issues and to allow representatives of community groups to discuss the way roads affect peoples' lives, search conferences were conducted in the Wollongong and Tumut regions. These served two purposes: first, they offered new information and, second and more importantly, they provided viewpoints on the way roads affect ordinary people's lives within two specific communities. In Tumut, for example, community groups tended to view road-related problems from a wider perspective than the interest groups (see Chapter 3), taking into account positive and negative aspects and trying to find an acceptable, balanced solution which did not impose costs on one section of the community only. It will also be noted that proximity effects did not receive any special attention.

### WOLLONGONG SEARCH CONFERENCE

Wollongong, 80 kilometres south of Sydney, is a large industrial port city, physically constrained by Lake Illawarra and the Illawarra escarpment. Wollongong's principal function has been heavy manufacturing based on steel production, strongly supplemented by growing tertiary and intensive primary activities. The city has experienced considerable population growth, particularly in the 1950s and 1960s.

In the early 1980s, competition for available road space between heavy industry, the tertiary sector and the residents of Wollongong was intense and accessibility appeared to be a problem. The major traffic problem perceived in Wollongong was the presence of large trucks which transported raw materials, manufacturing products for heavy industry and coal to the Port Kembla coal loader. The region's economy was

largely dependent upon the movement of heavy industrial materials by truck, with coal transport in particular attracting a deal of adverse public attention.

### **Summary of discussion**

Representatives of nine organisations from the Wollongong region met to discuss the social aspects of roads. (A list of organisations represented is detailed in Appendix II). The following discussion provides a summary of the diverse and often conflicting viewpoints and opinions of representatives from the Wollongong region and does not necessarily reflect the BTE viewpoint or interpretation of local problems.

#### *Accessibility*

Congestion, accessibility and competition for road space were identified as major sources of concern in the Wollongong region. Specifically, residents felt that these problems were imposed on them by people living outside the area: for example, large coal trucks and holiday traffic were especially seen to contribute to local congestion and to impede access to facilities. It was also suggested, however, that bad planning was at the root of congestion, and consequently, loss of amenity for shoppers and the claimed loss of business for commercial interests in the Wollongong region. Moreover, local processing plants were seen to be in danger of being shut down because of the poor standard of roads and the resulting, poor accessibility, in the area.

Representatives suggested that the development of freeways might improve traffic flow and ease congestion within the region, as well as facilitate accessibility generally. However, a number of representatives also felt that the resulting improved accessibility to Sydney would further encourage consumer money to leave the region, especially in light of the region's already poor quality of services and amenities. In addition, freeways would promote tourist traffic which, many claimed, reduced the quality of life in the local environment.

Delegates felt that existing roads could be better utilised if some road traffic were diverted to rail. They also suggested that an export road system could incorporate all port-related activities and perhaps avoid the frequent ad hoc decision-making evident in the Burragorang Valley mine closure proposals. In general, participants thought that the present road conditions and conflict of interests within the region required regional decision-making and compromises.

A number of representatives focussed attention on coal truck drivers using crowded, narrow roads and the associated problem of competition for road space. It was pointed out, however, that roads were neither the exclusive property of the private motorist nor of local residents and truck drivers should not be blamed for prevailing traffic conditions in the absence of a more efficient coal transport system.

#### *Road funding*

Some representatives were critical of existing Commonwealth and State Government funding arrangements, particularly the allegedly small amount of funds allocated to the Illawarra region. It was suggested that, compared to the Hunter Valley, the Illawarra region was disadvantaged. Participants also considered that both State and Federal Governments had developed a hardened and cynical approach to the distribution of funds for road development. It was felt that existing road problems within the Wollongong region could be lessened by the injection of additional funds into appropriate areas. However, the injection of funds should not be used for upgrading 'old coach roads' (Macquarie and Bulli Passes, for example) but to construct new roads to an adequate standard.

On the other hand, a small minority of participants held the view that too much investment was already being directed to roads. As roads improved, traffic would increase and intimidation of the private motorist by large trucks would rise. Indeed, it was (somewhat paradoxically) argued that fewer accidents occurred on the more dangerous roads: incremental upgrading of a naturally bad road only encouraged drivers to take unwarranted risks.

#### *Other issues*

In order to reduce accidents involving trucks additional finance was advocated for road improvements. It was pointed out, however, that contrary to popular opinion, the Appin Road and Bulli Pass had proportionately more accidents involving cars than trucks. It was suggested, however, that the introduction of driver education refresher courses on a regular basis for truck drivers, together with an increased police presence in the area, the performance and image of truck drivers could be improved. In addition, it was thought that many current traffic problems could be overcome far more cheaply by educating motorists and truck drivers to share the roads, than by investing money in road improvement programs.

#### **TUMUT SEARCH CONFERENCE**

Tumut is 93 kilometres from Wagga Wagga and 128 kilometres south-west

of Canberra. Grazing, mixed farming, orchards and forestry are the region's main industries. The town services local activities as well as a growing tourist industry, with close access to Kosciusko National Park facilities.

### **Summary of discussion**

Representatives of nine organisations in the Tumut region met to discuss the social aspects of roads. (A list of the organisations represented is detailed in Appendix II). The following discussion provides a summary of the diverse and often conflicting viewpoints and the opinions expressed by these organisations does not necessarily reflect the BTE point of view or interpretation of local road problems.

### *Accessibility*

Participants queried the apparent lack of planning for adequate roads, given the amount of traffic generated by primary industry in the Tumut region. The Batlow-Tumut road, for example, carried considerable traffic: logs were hauled to the Tumut mills in very large quantities and the fruit cannery and packers at Batlow were dependent upon trucks for raw materials and the distribution of their products. Moreover, the timber industry generated a considerable amount of traffic, creating a traffic problem on the narrow bridge to one of the entrances to the town. The bridge crosses the Tumut River and provides access to the Snowy Mountains Highway. It was anticipated that when the proposed laminex factory opened in Wagga Wagga and obtained its raw material from existing eastern forests, traffic across the bridge would increase to one truck every four minutes. As a consequence, the large volumes of local and tourist traffic within the region were expected to conflict increasingly with the growing timber traffic.

A distinction was made between urban and rural roads and it was thought that roads were certainly of major concern for rural people, because they represented an important means of communication and access to facilities. Representatives felt that accessibility to major centres, such as Canberra, was important since this access increased recreational and employment opportunities for Tumut's population.

In defence of the efforts by the Shire to provide the reasonable access to which people claimed to be entitled, it was pointed out that the few residents living on certain roads did not justify expenditure on road upgrading. Shire officers also found it difficult to plan

ahead as family situations changed and people moved residence. Additionally, concern was expressed that centralised authorities appear to have no idea of how to use the information they gather to assess road needs in a way which reflects an understanding of local conditions and requirements.

The conflict between Tumut's tourist traffic and logging trucks, especially with the proposed opening of new timber mills in Wagga Wagga and in Albury, concerned a number of representatives. Some argued that trucks would overwhelm other traffic on the Snowy Mountains Highway from Tumut to Adelong through to the Hume Highway, creating a 'nightmare' in Adelong with its steep hills and sharp corners. It was felt that, while local residents may be accustomed to this situation, it would frighten visitors and cause a decline in tourist traffic.

The meeting agreed that the community had a divided attitude towards the timber industry. Tumut needed the industry but, because of the inadequate road infrastructure, the region also experienced some negative social effects. The suggestion that the timber industry contribute a greater share to the upkeep of local roads was rejected. It was claimed that the forestry and associated industries already made sizable contributions through taxes, vehicle registration and other fees, and it was not their fault that these funds were going to central, instead of local, government.

#### *Road funding*

The major problem overall with roads in the Tumut region appeared to be a shortage of funds, with no road in the Shire being considered to be of an acceptable standard over its entire length. It was claimed that without adequate funds for reconstruction, roads within the region would continue to deteriorate.

Representatives also raised the issue of private enterprise involvement in road construction. It was claimed that private enterprise had previously been used locally, but experience had shown that the resulting workmanship was often below the standard of both local and State Government efforts. Furthermore, it was stated that some private contractors underquoted to get the contract and then became bankrupt, leaving the State Government or Shire to finish the job.

#### *Other issues*

There was some discussion on whether roads were dangerous because of their state of repair and/or alignment, or whether accidents were due

to human error. There was disagreement on whether improved road conditions actually caused more accidents because they encouraged speeding, or reduced their number by making driving easier. It was suggested that the incorporation of safety design features in the vehicle, for example, speed governors, might help to overcome the problem of speeding.

Apparent community and media apathy toward road fatalities compared with air accidents was attacked: when four young people were killed in a road accident there was relatively little media attention; when four people were killed in a light aircraft accident, it received extensive newspaper and television coverage and prompted government investigation in an effort to prevent future air accidents. With roads claiming relatively more fatalities and injuries than air, a call for a reassessment of priorities on this matter was strongly supported.

Deterioration of local roads concerned a number of those present, especially when the New South Wales Forestry Commission temporarily closed the main road into the timber areas for resurfacing, and logging trucks were diverted through the Tumorrana area. As the road deteriorated rapidly and dust became a serious hazard, local residents would not risk their children's lives by sending them on the school bus and consequently, boycotted school for two days. It was pointed out that some efforts to overcome the hazardous conditions and to upgrade roads were already being undertaken, so that less inconvenience would be experienced by residents living near the forestry areas. Unfortunately, these efforts were reportedly constrained by insufficient funds, heavy timber traffic and local topographical and meteorological conditions, which made road maintenance difficult. During heavy rainfall in the Batlow area, for example, the school bus was unable to negotiate the road at all.

#### **SUMMARY OF COMMUNITY VIEWPOINTS**

The discussion below aims to highlight the commonalities and differences between the viewpoints expressed by community representatives in Wollongong and Tumut. The main issues raised have been summarised with regard to the adequacy of roads, road funding, social importance of roads and traffic accidents.

#### **Adequacy of roads**

In respect of urban and rural roads, representatives from both Wollongong and Tumut felt that priority should be directed to

improving the use of existing road networks in each region. They also judged that the existing road networks did not meet the current road demand, with much of the road network in both Wollongong and Tumut being substandard and deteriorating.

Suggested improvements included:

- . resealing, repair and routine road maintenance;
- . replacement of bridges;
- . reducing traffic congestion, improving accessibility and traffic movement by the construction of freeways and inter-freeway access; and
- . improving traffic management techniques and road planning generally.

Representatives felt that planning which was more responsive to regional needs could ensure minimum community disruption and result in substantial benefits to the community as a whole.

#### **Road funding**

It was suggested that a substantial increase in government funding was required, together with a complete revision of the allocation and distribution of funds for road development in Wollongong and Tumut. Specifically, priority should be given to urban roads in the Wollongong region and rural roads in the Tumut Shire. Generally, representatives were critical of the amount and variability of assistance provided by governments for road construction and maintenance in both centres.

#### **Social importance of roads**

Representatives from both Wollongong and Tumut pointed out that the road network was an important part of the social infrastructure. In Wollongong, however, roads and their associated traffic were perceived to be far more detrimental to community life than in Tumut. Tumut residents recognised advantages associated with the presence of the timber and tourist traffic, while Wollongong residents were incensed at the imposition of similar traffic, claiming a number of disadvantages but none of the advantages such as employment generation or increased passing trade.

Similarly, accessibility to major centres was treated as a disadvantage by Wollongong residents, while Tumut residents welcomed the possibility of increased accessibility to major centres such as Canberra.

### **Traffic accidents**

Representatives felt that road traffic accidents resulted from numerous sources, including driver incompetence, road conditions and competition for road space. It was suggested that a reduction in the incidence of road accidents could be achieved by the incorporation of safety design features in motor vehicles and driver education courses both for motorists and truck drivers.

The external effects of living near roads, such as the increased possibility of accidents to children and pedestrians, reduced access to properties and road hazards such as dust, concerned a number of representatives in Wollongong and Tumut. In addition, Tumut representatives felt that a more positive stance by the news media was needed to overcome the existing apathy towards road fatalities.



## CHAPTER 5-THE ATTITUDE SURVEY

The attitudes of the participants in the Wollongong and Tumut discussions offered some balance to the print media and interest group viewpoints. However, while some understanding had been gained of what the issues were from the points of view of organised groups, the view of the 'man in the street' had not yet been canvassed. To explore these issues further, an attitude questionnaire was designed, seeking information on:

- . how individuals use their roads and for what purpose, and how this usage may have changed;
- . whether they judge these roads to be adequate in providing access to desirable destinations;
- . what problems are encountered living next to particular roads; and
- . how road funding is ranked relative to other funding requirements.

As an information gathering instrument, the questionnaire appears to have worked well. Respondents had no obvious difficulties with the questions and the partial re-test indicated response stability over time. Although the pilot sample was too small to draw general conclusions, responses were in line with expectations and in reasonable agreement with the material discussed in earlier chapters. It was also evident that the opinions and attitudes expressed by survey respondents avoided the extremes of position frequently expressed by special interest groups and in the print media.

### PILOT TEST

The questionnaire was examined by consultant specialists and then pilot-tested in Sydney, Wollongong and Tumut during May and June, 1983. The discussion of the pilot survey's findings which follows is necessarily tentative, and conclusions should not be extrapolated beyond the pilot sample's boundaries. It should be noted that table

totals do not always add to sample size (N=86) because of non-responses.

The objectives of the pilot test were:

- . to examine the quality of the questionnaire under field conditions;
- . to collect data for preliminary analysis; and
- . to calculate sample estimates of population parameters for a major survey.

### **Pilot Test Procedure**

Interviews were conducted with 86 people. Although this is only a relatively small sample, it was deemed sufficient for the purpose of the pilot survey, and acceptable in the context of this exploratory study. Respondents were chosen in a non-random 'snowball' manner from three different geographical areas in New South Wales: the Sydney Metropolitan Area, Wollongong and Tumut.

Interviews in Sydney were carried out by ten interviewers from the University of Sydney Sample Survey Centre (SSC). The principal consultant provided the field supervisor with names of friends, and an interviewer, unknown to the potential respondent, administered the questionnaire and then sought additional names. In this way, 50 people were interviewed from households spread across the metropolitan area. In Wollongong, a participant from the previous search conference was interviewed, then the 'snowball' procedure was used until 19 people had responded. In the case of Tumut, the names of 12 residents were provided by officers of the Shire Council. Additional names were sought until 14 rural and three urban respondents had been interviewed.

The Sydney interviews were conducted by SSC field staff; Wollongong and Tumut respondents were interviewed by BTE officers, ostensibly working for the SSC and administering a SSC questionnaire. Respondents were not told that the questionnaire was primarily aimed at discovering attitudes to roads. This was done to prevent bias on the 'funding' questions.

Three weeks after the initial interview, respondents were re-interviewed by a different person. The second interview used a shorter version of the questionnaire, consisting of questions on funding and household vehicle use only. The retest of the funding

questions was important since, by their very subjective nature, they were especially prone to unreliable responses. However, with two sets of responses gathered over a period long enough for respondents to forget their initial answers, but not too long for them to have forgotten the overall thrust of the questionnaire, the reliability of the questions could be more accurately assessed. In this way, statistically significant differences between test and retest responses would indicate a high degree of unreliability (that is, inconsistency) and lead to the discarding or rewording of the question(s) concerned.

The distribution of the pilot sample by area and sex is shown in Table 5.1. Residents from Wollongong and Tumut township were combined in the 'Urban' category, since Tumut town respondents themselves perceived to have little in common with their 'greater' Shire counterparts.

The discussion which follows highlights the results obtained from the attitude survey. The main issues to be considered are funding, attitudes to private motor transport, the use of vehicles and roads, accessibility, proximity and road closures. A complete analysis of the statistical information is presented in BTE (1985).

## FUNDING

Levels of funding for road construction and maintenance had been found earlier to be a consistently contentious issue. It was difficult to derive a measure of what society considers an appropriate level of

TABLE 5.1-PILOT SAMPLE, BY SURVEY AREA

|        | <i>Metropolitan<sup>a</sup></i> | <i>Urban<sup>b</sup></i> | <i>Rural<sup>c</sup></i> | <i>Total</i> |
|--------|---------------------------------|--------------------------|--------------------------|--------------|
| Male   | 24                              | 11                       | 9                        | 44           |
| Female | 26                              | 11                       | 5                        | 42           |
| Total  | 50                              | 22                       | 14                       | 86           |

a. Metropolitan Sydney.

b. Wollongong and Tumut township.

c. Rural residents of Tumut Shire.

Source: BTE (1985).

funding, and the range of potential bias meant that questions had to be positioned, worded and structured with care, so that 'roads' were accorded a priority which was determined solely by the respondent. As a result, the funding questions were placed at the start of the questionnaire, before respondents had discovered that roads were the subject of the survey. In this way, it was thought that a more balanced assessment of funding priorities could be made by respondents.

Two questions were asked: the first sought the respondent's allocation of *additional* funds to a number of expenditure categories and the second, the respondent's allocation of a *reduction* of funds. Phrasing the funding questions in this way allowed for some check on the consistency of responses. The results for additional expenditure are presented in Table 5.2 and show roads ranking third in importance after education, and health and welfare. Retesting showed that roads moved up one position in importance. The magnitude of the change was small, however, and may have been due to respondents remembering the balance of the questionnaire's road content (that is, respondents may have been reacting to what they thought the interviewer wanted). Notwithstanding this qualification, the level of correlation between all test and retest responses had high statistical significance and, therefore, consistency (see BTE 1985).

The answers to the question about reduced funds did not show the same consistency between test and retest (see Table 5.3 and BTE 1985). Roads were ranked fifth in terms of choice of service to be reduced in both tests, but the relative repositioning of public transport (from six to four) and health and welfare (from four to seven), raises the possibility of a fundamental problem with the question. Alternatively, apparent changes in budget allocations may have been accounted for by the smaller retest sample.

#### ATTITUDES TO PRIVATE MOTOR TRANSPORT

The search conference in Wollongong suggested that people do not necessarily like driving a car. The increasing emphasis, especially by the press media, on the dangers of driving was further explored in the pilot survey by a series of questions focussing on attitudes to driving and motor vehicles (see BTE 1985). The results are summarised in Table 5.4. Irrespective of sample area, vehicles were viewed as essential, the majority of respondents appeared to enjoy driving, vehicles were status symbols only to a few, vehicles were more convenient than public transport, and maintenance was not considered

TABLE 5.2-ADDITIONAL BUDGET ALLOCATIONS, BY TYPE OF SERVICE

| <i>Test</i>              |             |                                       | <i>Retest</i>            |             |                                       |
|--------------------------|-------------|---------------------------------------|--------------------------|-------------|---------------------------------------|
| <i>Choice of service</i> | <i>Rank</i> | <i>Mean<br/>per cent<br/>addition</i> | <i>Choice of service</i> | <i>Rank</i> | <i>Mean<br/>per cent<br/>addition</i> |
| Education                | 1           | 18.0                                  | Health and welfare       | 1           | 17.6                                  |
| Health and welfare       | 2           | 17.3                                  | Roads                    | 2           | 16.0                                  |
| Roads                    | 3           | 14.7                                  | Education                | 3           | 15.5                                  |
| Law and order            | 4           | 11.0                                  | Law and order            | 4           | 12.5                                  |
| Public transport         | 4           | 11.0                                  | Public transport         | 5           | 11.5                                  |
| Recreation and sport     | 6           | 10.3                                  | Local government         | 6           | 9.6                                   |
| Local government         | 7           | 7.5                                   | Recreation and sport     | 7           | 8.0                                   |
| Water and sewerage       | 8           | 6.6                                   | Water and sewerage       | 8           | 5.9                                   |
| Other                    | 9           | 3.6                                   | Other                    | 9           | 3.4                                   |
| Total                    |             | 100.0                                 |                          |             | 100.0                                 |

Source: BTE (1985).

TABLE 5.3-REDUCED BUDGET ALLOCATIONS, BY TYPE OF SERVICE

| <i>Test</i>              |             |                                       | <i>Retest</i>            |             |                                       |
|--------------------------|-------------|---------------------------------------|--------------------------|-------------|---------------------------------------|
| <i>Choice of service</i> | <i>Rank</i> | <i>Mean<br/>per cent<br/>addition</i> | <i>Choice of service</i> | <i>Rank</i> | <i>Mean<br/>per cent<br/>addition</i> |
| Recreation and sport     | 1           | 22.0                                  | Recreation and sport     | 1           | 21.4                                  |
| Water and sewerage       | 2           | 16.7                                  | Local government         | 2           | 16.4                                  |
| Local government         | 3           | 15.1                                  | Water and sewerage       | 3           | 16.0                                  |
| Health and welfare       | 4           | 11.2                                  | Public transport         | 4           | 11.0                                  |
| Roads                    | 5           | 11.1                                  | Roads                    | 5           | 10.5                                  |
| Public transport         | 6           | 9.7                                   | Education                | 6           | 9.3                                   |
| Education                | 7           | 7.3                                   | Health and welfare       | 7           | 8.0                                   |
| Law and order            | 8           | 6.4                                   | Law and order            | 8           | 7.1                                   |
| Other                    | 9           | 0.5                                   | Other                    | 9           | 0.3                                   |
| Total                    |             | 100.0                                 |                          |             | 100.0                                 |

Source: BTE (1985).

TABLE 5.4-ATTITUDES TO PRIVATE MOTOR TRANSPORT, BY SURVEY AREA

| <i>Attitude</i>                                 | <i>Agree</i> |              |              |              | <i>Neutral</i> |              |              |              | <i>Disagree</i> |              |              |              |
|-------------------------------------------------|--------------|--------------|--------------|--------------|----------------|--------------|--------------|--------------|-----------------|--------------|--------------|--------------|
|                                                 | <i>Metro</i> | <i>Urban</i> | <i>Rural</i> | <i>Total</i> | <i>Metro</i>   | <i>Urban</i> | <i>Rural</i> | <i>Total</i> | <i>Metro</i>    | <i>Urban</i> | <i>Rural</i> | <i>Total</i> |
| 'Vehicle is essential'                          | 28           | 21           | 17           | 66           | 0              | 1            | 1            | 2            | 8               | 2            | 0            | 10           |
| 'Enjoyment from driving'                        | 26           | 15           | 11           | 52           | 5              | 2            | 5            | 12           | 6               | 5            | 2            | 13           |
| 'Driving is a chore'                            | 10           | 8            | 4            | 22           | 5              | 1            | 2            | 8            | 22              | 15           | 12           | 49           |
| 'Vehicle is a status symbol'                    | 9            | 3            | 1            | 13           | 4              | 2            | 2            | 8            | 24              | 19           | 15           | 58           |
| 'Vehicle more convenient than public transport' | 31           | 21           | 18           | 70           | 2              | 1            | 0            | 3            | 4               | 2            | 0            | 6            |
| 'Maintenance is a problem'                      | 9            | 8            | 4            | 21           | 5              | 1            | 2            | 8            | 23              | 15           | 13           | 51           |

Source: BTE (1985)

to be a problem. On the evidence, the private motor vehicle occupied a central and largely positive role in respondents' lives.

### USE OF VEHICLES AND ROADS

Survey results indicated that cars and station wagons were the most frequent forms of transport, followed by public transport, although the latter was used on a more casual basis. Furthermore, as presented in Table 5.5, results showed that most trips tended to fall into the 'visit friends' and 'recreation' categories, which also accounted for the majority of reported trips on all classes of roads, particularly freeways. Further, 'going to work' and 'shopping' trips were rarely undertaken by respondents via freeways. Taking 'children to school' accounted for only a very small percentage of all trips, and most of these trips used minor roads. Business trips were reasonably spread over all road classes, and the majority of all trips undertaken by the survey sample were made on minor roads. It is noted, however, that the findings for road type used depended upon the road types available in the three survey areas and for many trips, no other options may have been available.

### ACCESSIBILITY

Table 5.6 presents responses to a number of survey questions designed to test the perceived quality of accessibility associated with different roads used by respondents. In this case, perceived

TABLE 5.5-PRIVATE TRANSPORT TRIP PURPOSE, BY ROAD TYPE<sup>a</sup>

| <i>Trip purpose</i>  | <i>Minor road</i> | <i>Major road</i> | <i>Highway</i> | <i>Freeway</i> | <i>Total</i> |
|----------------------|-------------------|-------------------|----------------|----------------|--------------|
| 'To and from work'   | 91                | 85                | 74             | 27             | 277          |
| 'Shopping'           | 156               | 130               | 124            | 22             | 432          |
| 'Visit friends'      | 164               | 145               | 139            | 105            | 553          |
| 'Recreation'         | 163               | 140               | 135            | 109            | 547          |
| 'Children to school' | 34                | 15                | 7              | 5              | 61           |
| 'On business'        | 68                | 68                | 83             | 47             | 266          |
| 'Other'              | 20                | 16                | 12             | 15             | 63           |
| Total                | 696               | 599               | 574            | 330            | 2 199        |

a. Multiple responses allowed.

Source: BTE (1985).



accessibility was denoted by respondents' general opinions of their local roads.

Structural changes to roads such as resurfacing, realignment and bridge repairs, observations about the changing numbers and types of

TABLE 5.6-OPINION OF ROADS, BY SURVEY AREA AND ROAD TYPE<sup>a</sup>

| Road type  | Area         |       |       | Total |
|------------|--------------|-------|-------|-------|
|            | Metropolitan | Urban | Rural |       |
| Minor      |              |       |       |       |
| Good       | 26           | 14    | 4     | 44    |
| Neutral    | 16           | 7     | 5     | 28    |
| Bad        | 8            | 1     | 3     | 12    |
| Total      | 50           | 22    | 12    | 84    |
| Major      |              |       |       |       |
| Good       | 20           | 9     | 4     | 33    |
| Neutral    | 15           | 5     | 3     | 23    |
| Bad        | 15           | 8     | 1     | 24    |
| Total      | 50           | 22    | 8     | 80    |
| Highways   |              |       |       |       |
| Good       | 24           | 10    | 9     | 43    |
| Neutral    | 12           | 3     | 4     | 19    |
| Bad        | 13           | 9     | 1     | 23    |
| Don't know | 1            | 0     | 0     | 1     |
| Total      | 50           | 22    | 14    | 86    |
| Freeways   |              |       |       |       |
| Good       | 41           | 17    | 9     | 67    |
| Neutral    | 5            | 0     | 0     | 5     |
| Bad        | 2            | 4     | 0     | 6     |
| Don't know | 1            | 1     | 0     | 2     |
| Total      | 49           | 22    | 9     | 80    |

a. Totals do not always add to sample size (N=86) because of non-response.

Source: BTE (1985).

vehicles over the years, together with comments concerning the respondents' own changes in road use, all add to the picture of perceived accessibility. Respondents in the metropolitan and rural areas reported most structural changes on minor and major roads. However, they perceived that increases in traffic volume were fairly evenly spread over all road classes. Half of the respondents reported changes in their personal use of roads relating mainly to route changes due to increased traffic volumes on some roads. Generally, there appeared to be few accessibility problems experienced by respondents. All road types were predominantly rated as good, with the 'highway' and 'major road' categories attracting most criticism.

### **PROXIMITY**

Survey results showed that almost half of the respondents lived on a minor through road. High volumes of traffic were noted principally by respondents living on major roads or highways. These high volumes were reported to occur from 5.00 to 10.00 am and 4.00 to 8.00 pm, the traditional peak periods, with roads generally being busiest in the period Monday to Friday (see BTE 1985).

Survey results indicated that, except for traffic noise, proximity effects were generally minor. If effects were present at all, they tended to be more pronounced in the metropolitan sample area. In response to questions on road safety concerns, respondents were most concerned about the safety of children on bicycles or on foot (see Table 5.7).

Another way of determining the effects of proximity was to find out if people would move because of unsafe roads outside their house. Consequent respondents were asked to nominate any of ten reasons for moving house, and it is evident from Table 5.8 that safer roads did not rank highly, irrespective of sample area.

### **ROAD CLOSURES**

Road closures have for some time been an integral part of residential street management schemes. Table 5.9 presents the results obtained when respondents were asked about their attitudes to the permanent closure of minor through roads in their locality. Results showed that attitudes to minor road closures varied with the sample area, but the majority of respondents were in favour of the closure of minor roads. Analysing these attitudes further by considering the type of road outside the respondent's house, it was evident that attitudes to road closures tended to become less favourable as roads moved from the

TABLE 5.7—CONCERN ABOUT SAFETY ON ROADS OUTSIDE THE HOME, BY SURVEY AREA AND ROAD TYPE<sup>a</sup>

| <i>Road type outside respondent's home</i> | <i>Children's safety as pedestrians</i> |                       |                     |              | <i>Children's safety as cyclists</i> |                       |                     |              | <i>Children's safety as car passengers</i> |                       |                     |              |
|--------------------------------------------|-----------------------------------------|-----------------------|---------------------|--------------|--------------------------------------|-----------------------|---------------------|--------------|--------------------------------------------|-----------------------|---------------------|--------------|
|                                            | <i>Worry</i>                            | <i>Worry a little</i> | <i>Do not worry</i> | <i>Total</i> | <i>Worry</i>                         | <i>Worry a little</i> | <i>Do not worry</i> | <i>Total</i> | <i>Worry</i>                               | <i>Worry a little</i> | <i>Do not worry</i> | <i>Total</i> |
| Minor, dead end                            | 6                                       | 5                     | 5                   | 16           | 6                                    | 6                     | 4                   | 16           | 2                                          | 3                     | 11                  | 16           |
| Minor, through                             | 19                                      | 14                    | 7                   | 40           | 21                                   | 10                    | 9                   | 40           | 5                                          | 10                    | 25                  | 40           |
| Major                                      | 12                                      | 4                     | 5                   | 21           | 14                                   | 2                     | 5                   | 21           | 7                                          | 6                     | 8                   | 21           |
| Highway                                    | 3                                       | 3                     | 2                   | 8            | 7                                    | 0                     | 1                   | 8            | 4                                          | 3                     | 1                   | 8            |
| Total                                      | 40                                      | 26                    | 19                  | 85           | 48                                   | 18                    | 19                  | 85           | 18                                         | 22                    | 45                  | 85           |
| <i>Road type outside respondent's home</i> | <i>Adults' safety as pedestrians</i>    |                       |                     |              | <i>Adults' safety as cyclists</i>    |                       |                     |              | <i>Adults' safety as car passengers</i>    |                       |                     |              |
|                                            | <i>Worry</i>                            | <i>Worry a little</i> | <i>Do not worry</i> | <i>Total</i> | <i>Worry</i>                         | <i>Worry a little</i> | <i>Do not worry</i> | <i>Total</i> | <i>Worry</i>                               | <i>Worry a little</i> | <i>Do not worry</i> | <i>Total</i> |
| Minor, dead end                            | 1                                       | 5                     | 10                  | 16           | 1                                    | 7                     | 8                   | 16           | 1                                          | 4                     | 11                  | 16           |
| Minor, through                             | 8                                       | 9                     | 23                  | 40           | 10                                   | 9                     | 21                  | 40           | 6                                          | 8                     | 26                  | 40           |
| Major                                      | 8                                       | 5                     | 8                   | 21           | 8                                    | 5                     | 8                   | 21           | 5                                          | 8                     | 8                   | 21           |
| Highway                                    | 3                                       | 2                     | 3                   | 8            | 4                                    | 1                     | 3                   | 8            | 5                                          | 0                     | 3                   | 8            |
| Total                                      | 20                                      | 21                    | 44                  | 85           | 23                                   | 22                    | 40                  | 85           | 17                                         | 20                    | 48                  | 85           |

a. Totals do not add to sample size (N=86) because of non-responses.

Source: BTE (1985).

'minor' to the 'highway' classification (see BTE 1985). Overall, it appears that road closures tended to be more favourably regarded by respondents living on minor roads in the metropolitan area than in rural areas.

TABLE 5.8-ALL REASONS FOR MOVING, BY SURVEY AREA<sup>a</sup>

| <i>Reason</i>                   | <i>Metro-<br/>politan</i> | <i>Per<sup>b</sup><br/>cent</i> | <i>Urban</i> | <i>Per<sup>b</sup><br/>cent</i> | <i>Rural</i> | <i>Per<sup>b</sup><br/>cent</i> | <i>Total</i> | <i>Per<sup>b</sup><br/>cent</i> |
|---------------------------------|---------------------------|---------------------------------|--------------|---------------------------------|--------------|---------------------------------|--------------|---------------------------------|
| Change of job                   | 19                        | (38)                            | 13           | (59)                            | 4            | (29)                            | 36           | (42)                            |
| Access to school                | 4                         | ( 8)                            | 2            | ( 9)                            | 1            | ( 7)                            | 7            | ( 8)                            |
| Closer to work                  | 11                        | (22)                            | 4            | (18)                            | 2            | (14)                            | 17           | (20)                            |
| Retirement                      | 20                        | (40)                            | 7            | (32)                            | 8            | (57)                            | 35           | (41)                            |
| Other family change             | 18                        | (36)                            | 9            | (41)                            | 3            | (21)                            | 30           | (35)                            |
| Less traffic                    | 9                         | (16)                            | 1            | ( 5)                            | 1            | ( 7)                            | 11           | (12)                            |
| Attractiveness of<br>other area | 22                        | (44)                            | 9            | (41)                            | 4            | (29)                            | 35           | (41)                            |
| Better home                     | 24                        | (48)                            | 9            | (41)                            | 3            | (21)                            | 36           | (42)                            |
| Safer roads                     | 6                         | (12)                            | 2            | ( 9)                            | 0            | ( 0)                            | 8            | ( 9)                            |
| Business related                | 4                         | ( 8)                            | 7            | (32)                            | 4            | (29)                            | 15           | (17)                            |
| Other                           | 18                        | (36)                            | 1            | ( 5)                            | 0            | ( 0)                            | 19           | (22)                            |

a. Multiple responses allowed and hence percentages do not add to 100.

b. Per cent of survey area respondents.

Source: BTE (1985).

TABLE 5.9-ATTITUDES TO PERMANENT CLOSURE OF MINOR THROUGH ROADS, BY SURVEY AREA<sup>a</sup>

| <i>Attitude</i>         | <i>Metropolitan</i> | <i>Urban</i> | <i>Rural</i> | <i>Total</i> |
|-------------------------|---------------------|--------------|--------------|--------------|
| Very unfavourable       | 4                   | 4            | 5            | 13           |
| Moderately unfavourable | 12                  | 3            | 2            | 17           |
| Neutral                 | 6                   | 5            | 2            | 13           |
| Moderately favourable   | 16                  | 3            | 3            | 22           |
| Very favourable         | 11                  | 6            | 1            | 18           |
| Total                   | 49                  | 21           | 13           | 83           |

a. Total does not add to sample size (N=86) because of non-response.

Source: BTE (1985).

## CHAPTER 6-CONCLUDING REMARKS

This exploratory study has highlighted the contribution that roads are generally expected and perceived to make to Australian social and economic life. Conceptually, the social aspects of roads can be viewed, albeit somewhat inadequately, in terms of both accessibility and proximity. In this study, roads tended to receive more attention by virtue of their general access function, than they did for the negative effects they may have on adjoining households. However, during the Wollongong search conference, concern was expressed about the proximity problems generated by heavy coal trucks in the area, and some questionnaire respondents also listed traffic noise as a particularly undesirable effect.

Using complementary approaches, the study found that the quality of access provided by roads was of major concern to both individuals and groups from various organisations alike. Accessibility, or the quality of access, was dependent not only on the perceived condition and extent of the road network, but also on the amount of its usage. Road traffic congestion was reported to negate effectively the advantage that urban travellers would be expected to have over their rural counterparts, in terms of access to facilities. Indeed, even in the rural area under study, it was the traffic that was reportedly detracting from accessibility, rather than the absence or the poor state of roads themselves. Often, the poor state of roads and the traffic they carried were, however, compounding variables. In contrast, most proximity problems were confined to urban areas.

In view of the exploratory nature of the study, particular care is needed in interpreting the results in greater detail than the broad general findings stated above. A basic aim of the study was to develop and test a procedure rather than to generate definitive results. Hence the remainder of this concluding chapter is confined to comments on the methodology which are aimed at helping future researchers in this area.

The study involved four phases. The first three were a print media

search, a survey by letter of special interest organisations, and two search conferences of community groups. The fourth phase involved a pilot survey of individuals' attitudes to roads, with the design of the questionnaire being based on the findings of the first three phases. It was found that the various lines of inquiry pursued in this study (on which the questionnaire design was based) did not produce results that were significantly different in kind, although the strength of responses varied with location and interest. The different approaches are evaluated individually, followed by a brief assessment of the questionnaire itself.

#### PRINT MEDIA SEARCH

The print media search identified a range of those issues concerning roads that were of public concern over a number of years. There were a number of weaknesses which may have influenced the apparent strength of the issues identified, namely:

- . The main weakness was its inherent selectivity. Articles had already been selected and classified before BTE obtained access to them. This may have led to some issues receiving disproportionately more coverage than others, and appearing to be more important.
- . Associated with this problem was the difficulty of assessing the ubiquity of those issues which were reported in several different newspapers. The present methodology gives the same weight to one event being reported in two newspapers as two different events reported in one newspaper.
- . This problem was exacerbated by the geographical intensity and hence, limitation of the coverage, particularly as it related to the News Limited clippings. Reported issues were conspicuously confined to conurbations in the eastern States.

#### SURVEY BY LETTER

The letter was sent to a wide range of groups with special interests in roads, and aimed to elicit discussion of issues that were, by definition, narrow and specific. This objective was only partly achieved, since less than one-third of contacted groups actually responded. Unions, citizen action groups and retailing associations did not respond at all, posing the question of how representative of special interest groups the final range of issues was.

## SEARCH CONFERENCES

The purpose of the search conferences was to obtain an understanding of how communities perceive problems associated with their local road system. This objective was largely met, although problems and viewpoints were difficult to translate from the specifically local to the more generally applicable level. The approach was useful, however, since it contrasted wider community perceptions with the narrow concerns expressed by interest groups.

## ATTITUDE QUESTIONNAIRE

The questionnaire was based on preliminary field research to discover the relevant social aspects of roads. This attempt to make the questionnaire content realistic and relevant was an important element of the study. However, given the weaknesses of the initial approaches discussed above, which were explicitly aimed at identifying the relevant dimensions of the social aspects of roads, it may be argued that the very structure of the questionnaire and its attendant assumptions solicited responses that may otherwise not have been articulated. Indeed, the questionnaire may have drawn attention to features of the road system which had previously been ignored by respondents, but which suddenly assumed significance merely by being identified.

It was concluded that the social aspects of roads can be meaningfully examined using a questionnaire approach, provided that the dimensions of the relevant issues can be defined. This is difficult, however, since roads tend to be predominantly of local concern. Consequently, care must be taken to identify parochial prejudices if particular social aspects of roads are to be relevant on a total program level.

## APPENDIX I-INTEREST GROUP CONTACTS

The BTE wrote to a number of organisations interested in roads, in order to identify issues related to the social aspects of Australian roads. A list of organisations contacted and the number of responses are presented in Table I.1.

Respondents were assured of confidentiality and cannot be identified in the text other than by type of organisation.

TABLE I.1-ORGANISATIONS CONTACTED AND RESPONDING TO LETTER SURVEY

| <i>Organisation</i>                                         | <i>Responses</i> |
|-------------------------------------------------------------|------------------|
| <b>Motoring</b>                                             |                  |
| Northern Territory Automobile Association                   | 3                |
| National Roads and Motorists' Association                   |                  |
| Victoria Royal Automobile Club                              |                  |
| South Australia Royal Automobile Association                |                  |
| Queensland Royal Automobile Club                            |                  |
| Western Australia Royal Automobile Club                     |                  |
| Tasmania Royal Automobile Club                              |                  |
| <b>Local Government</b>                                     |                  |
| Australian Council of Local Government Associations         | 3                |
| New South Wales Local Government (and Shires) Association   |                  |
| Victoria Municipal Association                              |                  |
| Queensland Local Government Association                     |                  |
| South Australia Local Government Association (Incorporated) |                  |
| Western Australia Local Government                          |                  |
| Tasmania Municipal Association                              |                  |



TABLE I.1 (Cont)-ORGANISATIONS CONTACTED AND RESPONDING TO LETTER SURVEY

| <i>Organisation</i>                                             | <i>Responses</i> |
|-----------------------------------------------------------------|------------------|
| <b>Road Authorities</b>                                         |                  |
| New South Wales Department of Main Roads                        |                  |
| Victoria Country Roads Board                                    |                  |
| Queensland Main Roads Department                                |                  |
| South Australia Highways Department                             |                  |
| Western Australia Main Roads Department                         |                  |
| Tasmania Main Roads Department                                  |                  |
| Northern Territory Department of Transport and Works            |                  |
| Federal Department of Housing and Construction                  |                  |
|                                                                 | 4                |
| <b>Commercial</b>                                               |                  |
| Sydney Chamber of Commerce                                      |                  |
| Victoria Chamber of Commerce and Industry                       |                  |
| Brisbane Chamber of Commerce                                    |                  |
| South Australia Chamber of Commerce and Industry (Incorporated) |                  |
| Western Australia Chamber of Commerce                           |                  |
| Tasmania Chamber of Commerce                                    |                  |
| Tasmania Chamber of Industries                                  |                  |
|                                                                 | 3                |
| <b>Road Safety</b>                                              |                  |
| Victoria Road Safety and Traffic Authority                      |                  |
| Queensland Road Safety Council                                  |                  |
| South Australia Road Safety Council                             |                  |
| Western Australia Citizens' Road Safety Association             |                  |
| Western Australia National Safety Council (Incorporated)        |                  |
| Tasmania Police Department Road Safety Division                 |                  |
| Northern Territory Road Safety Council                          |                  |
| Australian Capital Territory Road Safety Council (Incorporated) |                  |
|                                                                 | 2                |
| <b>Citizens</b>                                                 |                  |
| Action for Public Transport (Sydney)                            |                  |
| Community Transport Concern (Illawarra)                         |                  |
| Citizens Against Freeways (Melbourne)                           |                  |
| Action for Public Transport (Canberra)                          |                  |
|                                                                 | 0                |

TABLE I.1 (Cont)-ORGANISATIONS CONTACTED AND RESPONDING TO LETTER SURVEY

| <i>Organisation</i>                                   | <i>Responses</i> |
|-------------------------------------------------------|------------------|
| Unions                                                |                  |
| Transport Workers Union (Federal Council)             |                  |
| The Professional Transport Drivers' Association Inc.  |                  |
| Long Distance Road Transport Association of Australia |                  |
| New South Wales Road Transport Association            |                  |
| South Australian Road Transport Association Inc.      | 0                |
| Rural                                                 |                  |
| Australian Council of Rural Youth                     |                  |
| Country Women's Association of Australia              |                  |
| Australian Dairy Industry Conference                  |                  |
| Wool Council of Australia                             |                  |
| Australian Wheatgrowers' Federation                   |                  |
| National Farmers' Federation                          |                  |
| Livestock Transporters Association of Queensland      |                  |
| United Graziers Association of Queensland             |                  |
| Northern Territory Cattle Producers' Council          | 4                |
| Retailing                                             |                  |
| Australian Consumers Association                      |                  |
| New South Wales Retail Traders Association            |                  |
| Victoria Retail Traders Association                   |                  |
| Queensland Retailers Association                      |                  |
| South Australia Retail Traders Association            |                  |
| Western Australia Retail Traders Association          |                  |
| Tasmania Retail Traders Association                   | 0                |
| Total organisations = 62                              | 19               |

*Source:* BTE (1985).

## **APPENDIX II-SEARCH CONFERENCE ATTENDANCE**

As part of its search for issues, BTE organised search conferences in Tumut and Wollongong, inviting local community groups to discuss issues related to their local road systems.

Discussions were unstructured and not formally recorded. Presented below is a summary of search conference attendance.

### **Organisations represented at Wollongong**

#### **Local Government**

- . Wollongong City Council - Welfare Services
- . Shellharbour Municipality

#### **State Government**

- . Police Traffic Branch
- . Department of Youth and Community Services
- . Department of Main Roads
- . Department of Environment and Planning

#### **Others**

- . Camden Coal and Bulk Haulage Limited
- . South-Coast Conservation Society
- . Community Transport Concern

### **Organisations represented at Tumut**

#### **Local Government**

- . Tumut Shire Council

State Government

- . Forestry Commission
- . Department of Main Roads
- . Police Traffic Branch

Others

- . Country Women's Association - Brungle and Tumut Branches
- . Tumut High School Parents and Citizens Association
- . Tumut Chamber of Commerce
- . Pyneboard Industries Pty Ltd

## REFERENCES

BTE (1985), Social Aspects of Roads: Attitude Survey, Reference Paper No 96, Bureau of Transport Economics, Canberra, unpublished.