# Chapter 3 Adequacy and extent of the national highway system

## Introduction

**3.1** This chapter addresses the second item in the terms of reference:

> Assess the adequacy and extent of the National Highway as currently declared in meeting the objective of providing a national road system that meets the needs of industry and the community.

**3.2** The national highway system was originally declared in 1974 and consisted of the links between mainland capital cities, plus links between Brisbane and Cairns, and Hobart and Burnie. The national highway system has since been extended on two occasions: firstly in 1992 to include important inland freight links between Sydney and Adelaide, and between Melbourne and Brisbane; and secondly in 1993–94 to include urban links between existing national highways within certain capital cities. The national highway system totals some 18 500 km and since 1974 the Commonwealth has spent some $11 billion on its upgrading and maintenance. The map at figure 3.1 shows the national highway system.

**3.3** A significant amount of the evidence presented to the committee suggested deficiencies in the adequacy and extent of the national highway system, particularly in relation to a lack of high quality links to ports, airports, rail terminals and industrial facilities in major urban areas.

**3.4** In considering the extent and the adequacy of the national highway system, this chapter discusses the objectives of the national highway system, industry and community expectations, the need for effective integration with other forms of transport, and the need to integrate the national highway and roads of national importance into a national road system. The chapter also considers the issue of deficient bridge infrastructure.

## National highway objectives

**3.5** When the national highway system was declared in 1974, the then Commonwealth Bureau of Roads recommended the following objectives:

- encourage and contribute, to a major extent, to trade and commerce, overseas and among the States;
- assist industry located in major centres of population to be complementary to industry located in neighbouring major centres;
- reduce, significantly, transport costs of the products of rural and/or secondary industry, between points of production and points of export or consumption;
- provide for long distance movement associated with recreation and tourism;
- improve movement between defence production centres, defence supply and storage locations, and defence establishments generally. (Commonwealth Bureau of Roads 1973, p. 154)

**3.6** Revised objectives (based on the above) were developed in 1993 for inclusion in proposed legislation on the national highway to replace the existing roads legislation in 1994. Legislative principles, including proposed national highway objectives, were issued widely for discussion by the then Minister for Transport and Communications, in a paper issued in July 1993 entitled *Proposals for the Future Administration of the National Highway System.* The government of the day subsequently decided not to pursue a new act and the proposed objectives were not formalised.

**3.7** The revised objectives developed in 1993 form the basis for the objectives as currently stated by the Commonwealth in 1997. They are:

- facilitating overseas and interstate trade and commerce;
- allowing safe and reliable access by a significant proportion of Australians to major population centres;
- minimising the cost of the National Highway to the Australian community;
- supporting regional development; and
- contributing to ecologically sustainable development. (Sub 482, *Submissions* p. 848)

**3.8** Objectives for the national highway system are not included in the *Australian Land Transport Development Act 1988* (ALTD Act) under which the national highway system is funded, nor are national highway objectives included in the *Notes on Administration* which accompany the ALTD Act and provide administrative procedures and guidelines for the Australian land transport development program (the *Notes on Administration* are discussed further in chapter 5).

**3.9** It is essential that the objectives for the Commonwealth's road programs are clearly stated and widely known to ensure that a strategic focus can be developed and maintained for Commonwealth road funding. The committee considers that it would be appropriate to formally state the objectives for the national highway system in the *Australian Land Transport Development Act 1988* and the *Notes on Administration* which accompany the Act.

## Relevance of objectives

**3.10** There was varying opinion in the evidence as to whether the stated objectives for the national highway system were relevant for the system as defined in 1997.

**3.11** The Tasmanian Government noted that the national highway system 'objectives need to be reconsidered to reflect current and expected future requirements … emphasis should be placed on the need to foster and enhance the nation's competitive position within a sustainable development context.' (Sub 664, *Submissions* p. 1501)

**3.12** The NSW Government noted that while the 'objectives are relevant, the translation of them into deliverable strategies is critical.' (Sub 686, *Submissions* p. 1665)

**3.13** The South Australian Government 'strongly endorses the Commonwealth's [stated] objectives for the NHS [national highway system].' (Sub 423, *Submissions* p. 157)

**3.14** Main Roads Western Australia noted that the national highway system, as defined in 1997, does not meet the stated objectives (Sub 468, *Submissions* p. 642). The adequacy and extent of the national highway system in meeting its objectives is discussed later in this chapter.

**3.15** The Civil Contractors Federation stated that the objectives were 'in a broad sense relevant, however, the NHS [national highway system] as currently defined DOES NOT provide an appropriate and adequate system to meet those objectives in the future.' (Sub 480, *Submissions* p. 812)

**3.16** The Australian Automobile Association considered that, while the objectives for the national highway system were 'broad-ranging and comprehensive', they only apply to a limited network of roads (Sub 646, *Submissions* p. 1379).

**3.17** The Northern Territory Government noted that the stated objectives for the national highway system were still relevant and supported the inclusion of two additional objectives: 'support for defence objectives' and 'promote broader system functionality.' (Sub 645, *Submissions* p. 1324) Main Roads Western Australia also supported the inclusion of these additional objectives (Sub 468, *Submissions* p. 642).

**3.18** Broader system functionality refers to the national highway system in the context of other road systems and other modes of transport. An objective in this regard would recognise that the development of the national highway has an impact on connecting roads and competing and complementary forms of transport and would support the view that the national highway system represents part of Australia's greater transport network.

**3.19** The committee considers that, as the integration of the national highway system with other roads and other transport modes is an important factor in the efficiency of Australia's transport network, it is appropriate to include reference to broader system functionality in the national highway objectives.

### *Assessment against objectives*

**3.20** The Australian National Audit Office (ANAO) noted the need for clearly defined objectives to facilitate effective program delivery and that 'performance indicators should be linked to each objective with performance criteria established which facilitate measurement of performance in relation to achievement of program objectives.' (Sub 425, *Submissions* p. 179)

**3.21** The Australian Road Federation noted that the objectives for the national highway are stated in 'general terms and need to be developed into plans and measures of performance.' (Sub 418, *Submissions* p. 121)

**3.22** The Commonwealth Department of Finance noted that 'it is not clear that stated objectives for the NHS [national highway system] are sufficiently precise to allow for the development of performance standards capable of delivering unambiguous assessment of its adequacy.' (Sub 443, *Submissions* p. 292)

**3.23** The committee considers that the objectives as currently stated for the national highway system are relevant. However, the committee considers that the objectives should be reviewed and consideration given to the inclusion of additional objectives such as a reference to broader system functionality.

**3.24** The committee considers that the objectives for the national highway system should be regarded as broad goals and agrees with the ANAO that specific performance indicators need to be developed against each objective so that the performance and adequacy of the system may be evaluated.

### *Objectives and funding*

**3.25** The view was expressed in the evidence that the funding provided for the national highway system is not adequate to meet the Commonwealth's objectives (Sub 468, *Submissions* p. 645).

**3.26** The committee recognises that the extent to which the national highway system can actually meet stated objectives is to a degree dependent on available funding. The issue of funding is discussed in chapter 4.

### 3.27 Recommendation 6

**The committee recommends that the Commonwealth, in consultation with States/Territories and appropriate parties, review the current stated objectives for the national highway system.**

### 3.28 Recommendation 7

**The committee recommends that, following the review proposed in recommendation 6, the objectives for the national highway system be formally incorporated into the *Australian Land Transport Development Act 1988* and its accompanying *Notes on Administration.***

### 3.29 Recommendation 8

**The committee recommends that the Commonwealth develop performance indicators against each national highway system objective to provide a basis for the regular evaluation of the performance of the national highway system.**

### 3.30 Recommendation 9

**The committee recommends that the performance of the national highway system be evaluated against its objectives and the relevance of the objectives be regularly reviewed. Further, the committee recommends that the results of the evaluation together with an implementation plan be published by the Commonwealth every five years.**

# Assessing adequacy

**3.31** The adequacy of a road network may be considered on several levels including:

- pavement quality (roughness and ride quality),
- road geometry (width, curves and gradients),
- lane capacity,
- safety (including overtaking opportunities**,** signage and line marking),
- reliability (flood immunity), and
- network coverage (where the network actually goes and how it integrates with other road networks and transport modes).

**3.32** The overall adequacy of a road, that is, its fitness for the job, needs to be considered in relation to all these factors. A road which may exhibit an adequate pavement quality may, however, be totally inadequate in terms of capacity; conversely, a road with adequate capacity may have inadequate safety due to dangerous curves and poor quality pavement.

**3.33** The Bureau of Transport and Communications Economics (BTCE) noted that:

> 'Adequacy' of transport infrastructure refers to whether or not additional investment is required in the infrastructure. The requirement to invest is a consequence of the infrastructure providing a poor level of service, such as high operating costs, long service times or unreliability. Poor service can have a variety of causes including shortages of capacity, physical deterioration and obsolescence due to changes in technology, demand, input prices or safety requirements. (Exhibit 22, p. 59)

**3.34** The BTCE noted that in work it undertook for the National Transport Planning Taskforce into the adequacy of Australia's transport infrastructure, it used two definitions of adequacy: firstly, a technical definition based on the 'physical and performance characteristics of transport infrastructure', and secondly, an economic definition based on 'cost–benefit analysis and an optimal timing criterion.' (Exhibit 22, p. 58)

**3.35** Assessing the adequacy of the national highway system is a significant and complex undertaking. In line with the nature of the evidence presented, the committee's consideration of national highway adequacy tended to be based more on the technical performance of the system in meeting the needs of industry and the community. A discussion of benefit cost analysis and other tools used in determining the need for road infrastructure investments (and by implication the adequacy of road infrastructure) is provided in chapter 5.

**3.36** In considering the adequacy and extent of the national highway, it was not the committee's intention to determine lists of projects comprising necessary national highway works to address perceived deficiencies, or lists of roads which could be regarded as possible national highway extensions or included as roads of national importance. Nevertheless, a considerable amount of evidence was presented to the committee by government bodies, industry and community organisations in each State/Territory arguing the case for the funding of particular roads and road projects in their area. The roads inspected by the committee are listed in figure 1.2.

**3.37** The committee's role was to investigate the underlying principles for funding Australia's national road system rather than to identify particular works for funding. References in the report to particular roads or road projects which may have been raised in the evidence should not be seen as support for funding or otherwise by the committee of that particular road or section of road.

# Industry and community expectations

**3.38** The national highway system represents only a relatively small proportion of Australia's total road network—18 500 km out of 810 000 km or 2.3 per cent. However, it includes many of Australia's major long haul freight routes and provides the key links between significant economic and population centres containing major domestic markets and export ports. The national highway system may be considered the backbone of Australia's road network which serves industry and the community.

**3.39** While the needs and expectations of industry and the community are broadly reflected in the stated objectives for the national highway system, there was concern expressed in the evidence before the committee that in some cases the physical attributes of the national highway and the extent of its coverage in certain areas were not adequate.

**3.40** To experience first hand the road issues which impact on industry and the community, the committee undertook a number of inspections of roads within and outside the national highway system covering urban, rural and remote regions. For example the committee inspected major urban roads including the M2 Motorway in Sydney, the Western Ring Road in Melbourne, and Kessels Road in Brisbane; urban fringe roads such as Mt Barker Road on the eastern approach to Adelaide; important regional roads including the Great Western Highway in NSW; and remote roads including the Barkly Highway east of Mt Isa in Queensland and the Tanami Road east of Halls Creek in Western Australia.

**3.41** In addition, the committee examined the need for port access roads including the access to Townsville Port. The committee inspected a number of bridges including the bridges at Howlong over the Murray River between NSW and Victoria, and the narrow bridges south of Turkey Creek in the north of Western Australia. A complete list of inspections is provided at figure 1.2 of this report.

## Industry needs

**3.42** The committee considers that the adequacy and extent of the national highway system, and how effectively it integrates with State/Territory and local road networks and other transport modes, are significant factors in the efficiency of Australia's primary and secondary industries. Australian industries including agriculture, resources, manufacturing and tourism depend on road transport.

**3.43** The Industry Commission noted that road represents the most important transport mode for the movement of passengers and freight, and accounts for 70 per cent of Australia's freight transport task. Accordingly, road transport represents a significant business input, accounting for between 3 and 5 per cent of business costs (Sub 416, S*ubmissions* pp. 95–6).

**3.44** Evidence was presented noting that:

- Australia's agriculture and resources industries account for approximately 20 per cent of Australia's gross domestic product and nearly 75 per cent of Australia's merchandise exports (Sub 717, *Submissions* p. 1779).

- Australia's burgeoning domestic and international tourism industry in 1996 accounted for 14.5 per cent of total export earnings representing over $16 billion in export earnings (Sub 637.01, *Submissions* p. 2283).

**3.45** The Industry Commission considered that, given Australia's large land mass and widely dispersed population centres:

> an efficient road system, including the National Highway, is therefore crucial to the competitiveness of our industries. (Sub 416, *Submissions* p. 95)

**3.46** There was a consistent view expressed during the inquiry that, while the national highway system was providing reasonable road freight access between capital cities and other major centres, the efficient movement of freight to industrial areas and ports within those capital cities and major centres, was constrained due to the lack of adequate links from the national highway (Sub 461, *Submissions* p. 503).

**3.47** While industry concerns about the adequacy of the national highway system generally revolved around the limited extent of the national highway in urban areas, concerns were also expressed about the capacity and physical adequacy of the national highway in rural and remote areas, in particular to meet specialist needs such as those of the mining industry.

### *Agriculture*

**3.48** A number of industries claimed that the growth of an industry, and by implication the growth of the nation, was constrained because of the deficiencies in sections of the national highway system.

**3.49** The Department of Primary Industries and Energy (DPIE) noted that 'due to the locational limitations of the rail transport system, and the lack of viable alternative transport options in many areas, roads provide an essential service' for primary industries and their associated communities.

**3.50** DPIE considered that a 'well maintained all weather road network … facilitates the efficient and cost effective movement of agriculture and resources outputs between regional and remote areas, industry processors and domestic markets and export gateways'. DPIE noted that 'road transport is the most cost effective option for transporting livestock from farm gate to processing plants and to ports for export.' (Sub 717, *Submissions* pp. 1779–80)

**3.51** The National Farmers Federation (NFF) put the view that the shipment of products from the hinterland to national ports and airports was the 'integral transport task for Australian agriculture.' (Sub 744, *Submissions* p. 1897)

**3.52** The NFF stated that 'it is essential that our rural centres and primary producers are able to move freight in and out of our regional areas all year round. It is inconceivable that as we approach the 21st century, in a westernised country, large parts of regional Australia can be cut off due to the inadequacy of sections of our national highway network' as a result of flooding (Sub 744, *Submissions* p. 1898).

**3.53** The committee's attention was drawn to inadequacies of the road infrastructure serving Australia's major food producing and processing regions. Two examples of this concern drawn from the evidence relate to the condition of the Goulburn Valley Highway in Victoria and the Great Western Highway in NSW.

**3.54** Evidence was presented that the Goulburn Valley Highway (national highway) serving the central northern region in Victoria had a poor safety record with poor pavement condition and geometry and inadequate bridge infrastructure (Sub 458, *Submissions* p. 458). The view was expressed that the condition of this link of the national highway system which represents a major road freight link to domestic markets and export ports in Melbourne and Sydney constrained industry and compromised community safety.

**3.55** The second example relates to the Great Western Highway (state arterial road) which represents the major road freight link to markets and ports in Sydney from central western NSW. Various projects on this link were formerly funded by the Commonwealth under its national arterial program before the funding for that category was untied in 1994 (Sub 405, *Submissions* p. 36). Evidence was presented that the inferior standard of this highway, in terms of pavement condition and capacity, has contributed to a poor safety record and has constrained the development and efficiency of the agricultural sector and manufacturing industries based in the central west region of NSW. The view was expressed that this link should be included as a national highway or a road of national importance (Sub 405, *Submissions* p. 37).

**3.56** These two examples illustrate the general case in the evidence that sections or links within the national highway system and some roads said to be of significance to regional and national development were deficient, rather than the whole road network being inadequate.

### *Resources industry*

**3.57** Concern was expressed to the committee that sections of the national highway serving Australia's mining regions do not adequately cater for larger vehicle configurations and impede the efficiency of the mining industry.

**3.58** The committee's attention was drawn to the need for the national highway system to be responsive to changes in economic activity and social patterns in rural and remote areas. MIM Holdings Ltd noted in evidence that the Barkly Highway in north-west Queensland was inadequate to meet the needs of industry and community in that region and that 'the deficiencies … are based upon the fact that the road was first laid down in the 1950s and early 1960s. The needs of this region have changed quite dramatically since that time but the road has not.' (*Transcripts*, p. 247)

**3.59** It was noted that the Barkly highway between Mt Isa and Cloncurry was not at a sufficient standard to accommodate the use of efficient three trailer road trains (Sub 11.01, *Submissions* p. 1289). This section of the Barkly Highway was described as a missing link in northern Australia's road network which widely provides for the use of such vehicles. Between Mt Isa and Cloncurry, three trailer road trains must either decouple trailers and make two trips or arrange for a police escort.

**3.60** The view was expressed that a remote national highway link such as the Barkly Highway must be of a standard to cater for the needs of diverse road users such as the mining industry, pastoral industry, local passenger traffic and tourist traffic (Sub 11.02, *Submissions* p. 1854).

**3.61** The committee considers that the needs of specific industries, such as mining, should be taken into consideration when determining road infrastructure investment decisions in the context of the national network. The possibility for industry contributions is discussed in chapter 6.

### *Tourism industry*

**3.62** Domestic and international tourism has emerged as one of Australia's fastest growing industries in recent years.

**3.63** The Office of National Tourism noted that 'roads are an essential part of the transport networks for tourists. Almost without exception, travel around Australia involves road transport at some point.' (Sub 637, *Submissions* p. 1128) With 83 per cent of all domestic holiday trips undertaken by road transport, it is evident that the quality of the road network has a significant impact on the continued growth of the industry (Sub 665, *Submissions* p. 1522).

**3.64** Elements of the national highway system on the eastern seaboard (including the Hume, Bruce and Sturt Highways) account for some of the roads most heavily used by tourists. The most heavily trafficked tourist road is the Pacific Highway. The Office of National Tourism noted that the joint funding partnerships between the Commonwealth and the NSW and Queensland Governments to upgrade the Pacific Highway under the Commonwealth's roads of national importance program would provide a major boost to tourism and other industries in that region and noted the flexibility of this funding arrangement (Sub 637, *Submissions* p. 1131).

**3.65** The Office of National Tourism noted that the Commonwealth has targeted the development of tourism in regional and rural Australia under its National Tourism Development Program (Sub 637, *Submissions* p. 1132). The quality of the road infrastructure in regional and rural Australia, including State/Territory and local road networks, and their ability to effectively link with the national highway system will be a significant factor in the success of the regional tourism initiative.

**3.66** Tourism Council Australia noted that:

> from the tourist industry's point of view, funding of road projects should take into consideration that the interface between modes of transport is of particular significance to the tourism industry, especially for international visitors. It is imperative that the interfaces between road and air and rail travel are well serviced and maintained through road projects. (Sub 665, *Submissions* p. 1523)

## Community needs

**3.67** The Bureau of Transport and Communications Economics indicates that road transport accounts for 86 per cent of motorised travel in Australia with air and rail accounting for 8 per cent and 4 per cent respectively (Sub 686, *Submissions* p. 1650).

**3.68** The Australian Local Government Association noted that 'the community has an expectation of a reasonable level of service with respect to safety, riding comfort and level of flood immunity in rural areas and environmental amenity in towns and cities.' (Sub 447, *Submissions* p. 406)

**3.69** This expectation is in line with the objective of the national highway system to provide for safe and reliable access by a significant proportion of Australians to major population centres. The community's dependence on road transport and the need for high quality road infrastructure is highlighted in rural and remote areas particularly in northern Australia where roads, including the national highway, can be cut by flooding, and communities isolated for long periods, as well as congestion evident in peak traffic in major cities.

**3.70** With a high dependence on roads, *the community regards Australia's roads as one network rather than a compilation of three networks*: Commonwealth, State/Territory and local roads. Therefore the effectiveness with which the three networks integrate is important to the efficiency of Australia's road network as a whole. The adequacy of the national highway system to the community is inextricably linked to the adequacy of State/Territory and local road networks. Further, the adequacy of the road network impacts on, and is affected by, the adequacy of alternative transport modes.

**3.71** The view was expressed that there should be less emphasis on road construction in urban areas and increased emphasis on urban public transport and the use of sustainable road transport such as bicycles.

**3.72** The People for Ecologically Sustainable Transport (PEST) noted that 'the role of Commonwealth transport funding should be to make better use of all transport infrastructure and to make better use of roads, not to encourage road building irrespective of the social costs of transport.' PEST considered that the increased construction of bicycle infrastructure would assist in this regard (Sub 406, *Submissions* p. 44).

**3.73** The People for Public Transport (PPT) expressed concern about the 'adverse environmental consequences, including greenhouse emissions, of excessive use of the private car and the health consequences of urban air pollution from traffic.' PPT were also concerned about the 'social consequences of poor public transport' on communities where transport choices are limited (Sub 467, *Submissions* p. 604).

**3.74** The committee considers that the Commonwealth should encourage States/Territories to consider transport solutions incorporating public transport options where appropriate and improved traffic management when addressing transport requirements, particularly in urban areas. The committee considers that States/Territories should look beyond road only solutions to urban transport needs.

**3.75** The committee considers that block grants to the States/Territories and local government for roads should provide for the funding of alternative transport solutions such as urban public transport development and commuter bicycle paths where such projects are more cost effective than alternative road developments.

**3.76** The Commonwealth funded an Urban Public Transport program and a national bicycle strategy in the early 1990s. The *Australian Land Transport Development Act 1988* provides for the funding of bicycle paths as part of road projects where appropriate**,** for example, a bicycle path was included as part of the Western Ring Road national highway project in Melbourne.

## Bridges

**3.77** Evidence was presented during the inquiry that deficient bridge infrastructure is emerging as a major weak link in the efficiency of Australia's road network (Subs 423, 643, 645, 686, *Submissions* pp. 159–60, 1660, 1278, 1332). The majority of the deficient bridge structures occur on the State/Territory and local road networks, however, as noted earlier, the efficient functioning of these networks has a direct bearing on the ability of the national highway system to meet its objectives.

**3.78** Bridges are long term infrastructure designed to last longer than road pavements. However, the ability of bridges to cater for existing and future heavier vehicle loadings is dependant on the original design, the standard of construction and maintenance, vehicle overloading, repeated loading cycles and natural deterioration (Sub 686, *Submissions* p. 1660).

**3.79** The adequacy of bridges is emerging as a critical issue. Bridges may need more Commonwealth consideration and involvement.

### *Bridge research*

**3.80** Research into the adequacy of Australian bridges has been undertaken for the Bureau of Transport and Communications Economics (BTCE) by the Queensland University of Technology. The research report noted that 94 per cent of 1976 bridges on the national highway system, and 84 per cent of 2448 bridges on other significant State/Territory roads, were generally in good condition (Exhibit 74, p. iv).

**3.81** It is significant to note that the 4424 bridges considered in this research represent only 8 per cent of Australia's total bridge stock and comprise some of the strongest and best maintained bridges in the network. The bridge stock on remaining State/Territory and local networks is generally older and weaker (Exhibit 74, p. 36).

**3.82** Of the national highway bridges, those in NSW, Queensland, Western Australia and South Australia were found to be in generally good condition. Victoria's national highway bridges were also in generally good condition, however, Victoria also had a significant proportion of bridges in fair condition. The research indicated that the Northern Territory had the highest proportion of bridges in poor condition (Exhibit 74, p. 4).

**3.83** The National Road Transport Commission (NRTC) is currently undertaking an assessment of bridge infrastructure to determine requirements for bridges to provide for the introduction of increased mass limits for heavy vehicles with road friendly suspensions. Each of the three tiers of Government is contributing to the $11 million assessment program. The assessment will focus initially on freight routes and the findings are expected to be available towards the end of 1997.

### *Murray River bridges*

**3.84** An example of the importance of adequate bridge infrastructure may be seen in the Murray Valley region where there are 27 crossings of the Murray River. The bridges form part of the road network serving the needs of industry and the community in both NSW and Victoria.

**3.85** It is important to note that each crossing point often includes approach bridges on both sides of the Murray River in addition to the 27 bridges actually traversing the river. The Murray Regional Development Board advised that six of the Murray River crossings include associated approach bridges across the flood plain. For example, the crossing at Howlong includes four separate bridges on the NSW flood plain plus six separate bridges on the Victorian floodplain, as well as the bridge crossing the Murray River. All of the NSW Howlong approach bridges and the river bridge are of timber construction and were built between 1908 and 1938 (Sub 465.01, *Submissions* p. 2287).

**3.86** The Murray River crossings are important for the movement of agricultural produce and inputs, manufactured goods, tourist traffic and local traffic, including emergency services. A great deal of the produce from the Murray region is destined for export markets. The Murray Regional Development Board noted that 'the road to our export markets for many products starts on a dusty track in regional Australia and at some stage, a large volume of this product crosses the Murray River.' (Sub 465, *Submissions* p. 558)

**3.87** Nearly half of the Murray River bridges were built before 1950 and some date back to the late 1800s and early 1900s. The average age of the bridges is 61 years (Sub 465, *Submissions* pp. 564–6; *Transcripts,* p. 688). Clearly the majority of these bridges were not designed to provide for the freight efficient vehicles currently operated and the proposal to further increase heavy vehicle mass limits will exacerbate existing inadequacies.

**3.88** As the Murray River forms the border between Victoria and NSW, both States share funding responsibility for the bridges (three are on the national highway system and are fully funded by the Commonwealth). The involvement of the Commonwealth and the two State Governments in the funding of these bridges also raises a cross-jurisdictional issue, highlighting the need for inter-governmental cooperation in the planning and funding of Australia's road network.

### *Impact of regulatory changes*

**3.89** Changing the regulatory environment may affect the adequacy of the road stock. For example, changing heavy vehicle technology and regulation, particularly the proposed increase in mass limits for heavy vehicles, will impact on all road networks: Commonwealth, State/Territory, and local.

**3.90** The National Road Transport Commission (NRTC) is considering increased mass limits for heavy vehicles greater than 4.5 tonnes. The NRTC's Mass Limits Review Steering Committee report of August 1996 found that while 'increasing mass limits should not have any detrimental effect on either the environment or on road safety' it has found that there may be a detrimental impact on bridges (Sub 750, *Submissions* p. 1943). The NRTC noted that the finding about bridges was 'unexpected' (*Transcripts*, p. 600).

**3.91** The NSW Government noted that 'while freight vehicles are a key input for economic development, they are the major contributor to road and bridge deterioration. The constant pressure to increase the size and efficiency of freight vehicles—longer, higher, wider, heavier—will significantly increase the amount of bridge replacement and maintenance funding needed in the future.' (Sub 686, *Submissions* p. 1640)

**3.92** The Northern Territory Government has identified thirty-five bridges on the national highway system in the Northern Territory, many constructed in the 1960s, which are below standard. The Northern Territory noted that 'these bridges are already weak links in the Territory highway network and will be even more of a penalty if the National Road Transport Commission's (NRTC's) proposed increased axle loadings are adopted.' (Sub 645, *Submissions* p. 1332)

**3.93** The Queensland Government noted that many of the forty-six wooden bridges on Queensland's strategic freight network including five on the national highway system, could require replacement if heavy vehicle mass limits are increased (Sub 643, *Submissions* p. 1278).

**3.94** The Tasmanian Government noted that, while previous increases in heavy vehicle loading limits and changes in heavy vehicle configurations have produced significant productivity increases, the changes have resulted in a higher rate of deterioration of road and bridge assets (Sub 664, *Submissions* p. 1497).

**3.95** It was noted that Tasmania's road network included approximately 3700 bridges including many of timber construction on the local road network. Tasmania considered that the proposed further increase in heavy vehicle mass limits will require the advancement of its bridge rehabilitation programs and in some cases the planned rehabilitation would need to be 'brought forward quite dramatically'. (*Transcripts*, pp. 512–13, 519)

**3.96** The committee considers that, consistent with the strategic role outlined in chapter 2, the Commonwealth should take a leading role in facilitating the smooth introduction of regulatory changes, such as the proposed increase in mass limits for heavy vehicles. Failure to ensure that road infrastructure is adequate to allow for changing regulations, such as mass limit increases, will impede the realisation of efficiency gains offered by such changes.

**3.97** The National Road Transport Commission noted that the need to upgrade bridges 'is the bottleneck at the moment in the way of improved road transport productivity by virtue of increased mass.' (*Transcripts*, p. 600)

### *Bridge upgrading*

**3.98** The National Road Transport Commission (NRTC) considered that 'bridge upgrades would require significant expenditure on arterial and local roads, and lesser expenditure on

national highways.' The NRTC further noted that 'initial estimates of required expenditure on bridge upgrades are up to $290 million on arterial roads and national highways, and up to $180 million for local roads.' (*Transcripts,* p. 601) As noted earlier, the NRTC is currently undertaking an assessment of bridges to determine upgrading requirements.

**3.99** The NRTC advised that considerable savings were likely to accrue from increasing mass limits for heavy vehicles. NRTC noted that 'direct savings in transport costs were estimated to be between $150 million and $420 million per annum, depending on how many operators take up mass limit increases. These direct savings are expected to translate into growth across all sectors of the Australian economy of between $460 million and $1250 million per annum.' (Sub 750, *Submissions* p. 1942)

**3.100** The NSW Government stated that 'as the Commonwealth will receive the taxation benefits from this improved industry productivity…[it] considers that the Commonwealth should meet the increased costs to NSW of adopting the NRTC's recommendations on mass limits.' (Sub 686, *Submissions* p. 1679)

**3.101** The Victorian Government noted that 'there is also a strong case for a National Bridge program to facilitate the use of higher mass limits and improve access by high productivity vehicles to areas of economic significance.' (Sub 689, *Submissions* p. 1739)

**3.102** The NRTC noted that 'it may be appropriate for the Commonwealth to bear a higher proportion of the additional expenditure than it would under normal arrangements.' (*Transcripts,* p. 601)

**3.103** The Department of Transport and Regional Development noted that additional costs associated with an increase in mass limits will 'need to be built into future National Highway budgets if a deterioration in [its] condition and [the level of] service the system provides is to be avoided' and that 'separate consideration will need to be given to the impact [on] … the local road system and the financial ability of local government to upgrade the bridge infrastructure.' (Sub 482, *Submissions* p. 857)

**3.104** The committee considers that inadequate bridge infrastructure is a weak link in Australia's road network and is a constraint on the social and economic development of regional Australia. In addition, deficient bridges in State/Territory and local road networks impact on the ability of the national highway system to meet its objectives within the overall road network. The proposed introduction of increased mass limits for heavy vehicles will exacerbate this situation but it is not the primary cause of deficiencies in the bridge stock. Factors including age, design and the construction of bridge stock contribute significantly to deficiencies in bridges.

**3.105** Bridges represent an integral part of the road system. As noted, evidence presented to the committee during the inquiry indicates that deficient bridge infrastructure is emerging as a major weak link in Australia's road system. The committee considers that greater emphasis needs to be placed on upgrading bridges as part of the overall effort to improve the adequacy and efficiency of the road system.

**3.106** The committee considers that the Australian Transport Council (ATC) in association with local government should develop a program to target deficiencies in major bridge infrastructure.

### 3.107 Recommendation 10

**The committee recommends that the Commonwealth request the Australian Transport Council in association with local government to develop a program to address deficient bridge infrastructure.**

## Road system integration

**3.108** The committee considers that the extent to which the national highway system integrates effectively and efficiently with other road networks and transport modes is a significant factor in determining its adequacy against industry and community needs. As noted earlier in this chapter, a significant amount of the evidence presented to the committee concerned the need to provide high quality access to ports, airports and rail terminals.

**3.109** The Australian Local Government Association (ALGA) argued that the development of an efficient inter-modal freight system is a national priority and links that support road access to key air and sea ports should form part of the national highway system (Sub 447, *Submissions* p. 403).

**3.110** The Victorian Government argued that there was a lack of integration with key State roads and other transport modes and this represented a major deficiency of the national highway system (Sub 689, *Submissions* p. 1738).

**3.111** The Australian Automobile Association (AAA) argued that it is important that the road development strategies of the Commonwealth and the States/Territories are compatible 'so that the user is faced with a continuous and connective road system.' The AAA noted that the development priorities of the Commonwealth and the States/Territories may differ on occasions (Sub 646, *Submissions* pp. 1380–1).

**3.112** The view was expressed that there were deficiencies in the consistency of national highway standards across borders. The Northern Territory Department of Transport and Works noted that:

> The Northern Territory section of the Barkly Highway was upgraded to a good two-lane standard seal in the mid 1980s. The 200 kilometre section of the same road on the Queensland section of the highway, between the border and Mt Isa, remains one of the poorest sections of national highway in this country today. (*Transcripts*, p. 296)

**3.113** The ACT Government also expressed concerns with cross border issues, noting that the standard of State/Territory roads such as the Kings and Monaro Highways, which are

major access links between the ACT and surrounding regions, are dependant on road funding investment decisions made by the NSW Government. The ACT Government argued that the Commonwealth should provide additional assistance for cross-border roads where one jurisdiction may be disadvantaged by the priorities of another, particularly where it is in the national interest (Sub 685, *Submissions* pp. 1622–3).

**3.114** Another example of the importance of efficient cross border connectivity can be seen with the issue of the bridges over the Murray River which was discussed earlier.

**3.115** The Eastern Ring Road Steering Committee (Melbourne) argued that, as roads traverse State borders, the Commonwealth is best placed to act as a central, unbiased body in controlling development and maintenance standards at a national level (Sub 466, *Submissions* p. 584).

**3.116** The committee considers that the Commonwealth is uniquely placed to consider system integration and cross border issues in terms of developing a national road strategy.

# Need for a national system of roads

**3.117** The committee notes that, on balance, there was general support for a national road system but not necessarily the network defined by the national highway system. The committee believes that consideration should be given to the relationship between the national highway system and the roads of national importance category to ensure that both categories are complementary and integrate effectively.

**3.118** Queensland Department of Main Roads noted that 'concentration on a sub-set of roads (the "National Highway") has distorted overall priorities and does not achieve the national outcomes' (Sub 643, *Submissions* p. 1259). Queensland further noted that 'the requirement now is not to think in terms of a national road system but rather to think in terms of national road transport outcomes.' (Sub 643, *Submissions* p. 1277)

**3.119** Other submissions called for a greatly expanded national road system. The Australian Automobile Association (AAA) considered that a larger network, which it called the 'Australian Road Network for Economic Development' should be introduced to 'replace the current Commonwealth preoccupation with the National Highway System.' (Sub 646, *Submissions* p. 1337)

**3.120** The AAA noted that an expanded network would include the existing national highway system, roads of national importance, and selected strategic rural and urban routes within States/Territories and capital cities. The AAA's rationale for moving to such a network is that it considers the broad objectives of the national highway program 'of linking the capital cities … [has been] … largely achieved.' (Sub 646, *Submissions* p. 1337)

**3.121** The Victorian Government considered that the national highway program 'has largely achieved its original goal of providing safe and reliable access between the nation's capital cities and to some other major population centres' and that 'there is now a second stage of development proceeding, adding capacity and improvements on what might be regarded as an inappropriate network for this phase of capital investment.' (Sub 689, *Submissions* p. 1733)

**3.122** Main Roads Western Australia noted that the existing national highway system is not adequate to meet the needs of industry and community and the Commonwealth needs to adopt a more extensive national road network to better meet needs (Sub 468, *Submissions* p. 641).

**3.123** The committee considers that it is appropriate for the Commonwealth to focus on a national road system as its primary road funding responsibility. The committee considers that the roads of national importance category represents an appropriate vehicle for the Commonwealth to enhance the effectiveness of the national road network.

## Composition of the national highway system

**3.124** In reviewing the evidence it became clear that the rural and urban elements of the national highway system are considerably different in character and function.

**3.125** When originally declared in 1974, the national highway system was essentially a rural network which terminated on the outskirts of capital cities. With the inclusion of a number of urban routes in 1993–94, linking national highway termination points in most capital cities, the Commonwealth assumed responsibility for a number of roads which carried mostly local and commuter traffic within cities.

**3.126** The extension of the national highway system in major urban areas to link national highways only has led to criticism that the national highway system fails to provide for the movement of national highway freight traffic to logical destinations such as industrial centres, warehouses and ports.

### *National highway in major urban centres*

**3.127** The NSW Government noted that 'it is difficult to conceive the Australian national highway system achieving economic integration if it does not encompass economic activity in urban areas of Australia.' (Sub 686, *Submissions* p. 1641)

**3.128** A great deal of the evidence presented to the committee identified significant deficiencies in the extent of the national highway system in major urban areas. The view was expressed that the Commonwealth's road funding responsibilities in urban areas should focus on the upgrading of existing links between national highways, the provision of ring roads and links to sea ports, airports, rail terminals and industrial facilities.

**3.129** The Victorian Government and a number of community and business organisations saw the absence of a full metropolitan ring road in Melbourne as a major deficiency in Victoria's road network and the national highway system (Sub 635, 689, *Submissions* pp. 1039, 1738). The Commonwealth has already fully funded the construction of a high quality link between the Hume and Western Highways in Melbourne forming part of the Western Ring Road at a cost of approximately $620 million and has contributed $27 million to the section of the Western Ring Road from the Western Highway to the Princes Freeway under the former national arterial program. A full metropolitan ring road would entail the construction of an Eastern Ring Road with an estimated total cost between $600 million and $1 billion.

**3.130** The NSW Government placed the construction of the Western Sydney Orbital, which is the proposed national highway alignment linking the national highway north and south of Sydney, as its highest priority in meeting national highway objectives (Sub 686, *Submissions* p. 1669). The total cost of the Western Sydney Orbital is estimated at $920 million. NSW noted that the cost of congestion in Sydney was estimated at over $2 billion per annum (Sub 686, *Submissions* p. 1661).

**3.131** The challenge facing the Commonwealth in urban areas is that while the urban national highway links perform a vital role in the provision of interstate and interregional movements, the majority of traffic movements are of a local or commuter nature. To ensure the national highway objectives are achieved, the Commonwealth faces the prospect of devoting an increasingly large proportion of its national highway budget to meet growing commuter and local traffic needs (Sub 482, *Submissions* pp. 857–8).

**3.132** The Department of Transport and Regional Development noted that the indicative cost of undertaking important national highway urban projects was approximately $3.6 billion. To satisfy the increasing demand on the national highway in urban areas would require an investment of between $1.5 and $2 billion during the next 10 years. The need for such expenditure is due to the significant expansion of residential and industrial areas since the declaration of the national highway system in 1974 (Sub 482, *Submissions* p. 857).

**3.133** It should be noted that the estimated level of required expenditure on the national highway in urban areas is in addition to maintenance needs and excludes suggested extensions to the Commonwealth's road funding responsibilities in urban areas such as the Eastern Ring Road in Melbourne.

**3.134** Concern was expressed by the Department of Transport and Regional Development that the Commonwealth's full financial responsibility for the national highway in urban areas may:

- encourage cost shifting from the States to the Commonwealth;
- focuses consideration on roads as a Commonwealth funded solution, to the exclusion of other transport options; and
- makes National Highway planning a *de facto* urban land use planning tool, a role that is not consistent with National Highway objectives. (Sub 482, *Submissions* p. 860)

**3.135** The committee considers, however, these concerns must be weighed against the major economic benefits of efficient freeway style connections of the national highway system through capital cities and the economic, environmental and social benefits of removing heavy freight vehicles from existing urban arterial roads.

**3.136** The issues of concern raised in relation to the adequacy, extent and funding of the national highway in urban areas would need to be considered in the development and adoption of a national strategic transport plan as recommended in chapter 2 of this report.

### *National highway in rural areas*

**3.137** Numerous examples were presented of national highways outside urban areas which organisations and individuals considered should have a higher upgrading priority, for example, sections of the Barkly Highway in Queensland, the Goulburn Valley Highway in Victoria, and the Sydney to Newcastle Freeway in NSW.

**3.138** The Australian Local Government Association (ALGA) noted that 'in rural areas, the emphasis should not be in terms of extending the NHS [national highway system] but in defining roads of national importance (RONIs). The Commonwealth needs to define these roads with State [and Territory] and Local Governments and direct funding toward improving access for export oriented resource industries, enhancing road safety, protecting national heritage and improving access and health of remote communities.' (Sub 447, *Submissions* p. 386)

**3.139** A number of submissions noted that the national highway system in terms of its rural component has achieved its original goal of providing safe and reliable access between capital cities (Subs 646, 689, *Submissions* pp. 1337, 1733).

**3.140** The committee considers that, with the Commonwealth's focus on the rural national highway links between the capital cities from 1974 to 1994, the rural national highway network has been substantially upgraded and offers reasonable levels of service, however, a number of significant projects still remain to be undertaken and the maintenance of the asset should be a major priority.

**3.141** The National Farmers Federation noted that it 'strongly refutes calls by some groups in the community that our rural road network is close to international best practice.' (Sub 744, *Submissions* p. 1898)

**3.142** The committee considers that it is somewhat premature to consider that the rural national highway system is completed.

## Roads of national importance

**3.143** The Commonwealth introduced the roads of national importance category in 1996 in recognition of the fact that many of the roads producing national benefits fell outside the declared national highway system.

**3.144** In 1997–98, the Commonwealth is providing funding for roads of national importance including: the Pacific Highway, Kidman Way and Summerland Way in NSW; Pacific Highway in Queensland; Calder Highway in Victoria; Mitchell Freeway and Kalgoorlie to Meekatharra Road in Western Australia; and the Devonport Port access road in Tasmania. Submissions received during the inquiry nominated numerous other roads which could potentially be funded under this category.

**3.145** The guidelines followed by the Commonwealth in funding roads of national importance are that such roads must promote regional and national development and target construction projects which:

> (a) form part of an integrated transport and land use strategy to:
>
> (i) improve access to major centres of economic activity (for example, manufacturing, agricultural, mining or tourism) by removing bottlenecks or other impediments to efficient road performance, or
> (ii) improve links to the National Highway or major transport facilities (for example, ports, road and rail terminals, intermodal terminals and airports), or
> (iii) allow people, goods and services to move more freely within major urban and provincial centres, in accordance with the planning objectives for those centres;
>
> (b) promote improvements in safety, efficiency and reliability, including the use of new transport technologies;
>
> (c) contribute to achieving environmental targets, particularly relating to air quality and greenhouse gas emissions; and
>
> (d) produce net economic benefits. (Sub 482, *Submissions* p. 948)

**3.146** The committee notes that the basis for funding under the roads of national importance category is closely aligned with the former national arterial category which the Commonwealth introduced in 1989 to fund projects on roads which enhanced the domestic and export competitiveness of Australian industry. The national arterial category was discontinued in December 1993 and the funding untied and paid to States/Territories as general revenue assistance in line with the agreement reached in the Special Premiers' Conferences held in the early 1990s to clearly delineate road funding responsibilities between the three tiers of government. Untied funding is discussed in chapter 4.

**3.147** Under the national arterial category, the Commonwealth initially identified a network of roads on which projects could be funded. This network of roads generally linked to and complemented the national highway system. National arterial projects were required to exhibit an advantageous benefit cost ratio to secure funding. The projects to be funded under the former national arterial category were identified by the Commonwealth in consultation with the States/Territories in the context of a national arterial strategy.

**3.148** Concern was expressed in evidence that the current roads of national importance category is not being developed within an overall strategy agreed with the States/Territories

and that funding is being drawn away from the national highway system to fund roads of national importance (Sub 686, *Submissions* p. 1657).

**3.149** While the roads of national importance category is not intended as a replacement for the national arterial category, the committee is concerned that it lacks a national focus and is being developed in the absence of an agreed strategy.

**3.150** The roads of national importance category provides funding for any road project as considered appropriate by the Commonwealth in line with the guidelines noted earlier. The guidelines generally reflect the objectives for the national highway system but are more specific. The guidelines target the types of roads raised during the inquiry as potential extensions to the national highway system or inclusions as roads of national importance.

**3.151** The committee considers that the roads of national importance category is a valuable extension to the Commonwealth's road funding program and should be seen as a complementary national category to the national highway system.

**3.152** The committee considers that the guidelines noted earlier for the determination of roads of national importance projects are appropriate. The committee considers that it is imperative that candidate projects display substantial net economic benefit and be given priority on the basis of benefit cost ratios in the context of a national strategy.

**3.153** The committee also considers that for the Commonwealth to achieve maximum benefit in its road funding effort, the roads of national importance category should not be funded at the expense of the national highway system. The roads of national importance category should be seen as the second tier of Commonwealth road funding under the national highway system within a national road system, and as such it is to the detriment of the national road system as a whole to take funding away from either tier to fund the other.

### 3.154 Recommendation 11

**The committee recommends that the guidelines for roads of national importance be formally incorporated into the *Notes on Administration* which accompany the *Australian Land Transport Development Act 1988*.**

### 3.155 Recommendation 12

**The committee recommends that projects funded under the roads of national importance category should:**

- **be prioritised on the basis of substantial net economic benefits using benefit cost ratios, and**
- **not be funded at the expense of the national highway system.**

## Determining a national road system

**3.156** The committee considers that the Commonwealth should consider its primary road funding responsibilities in terms of a national road system comprising the national highway system and roads of national importance category.

**3.157** In addition, the committee considers that the national highway system should represent the core set of roads to be fully funded by the Commonwealth with the roads of national importance category used as the vehicle to jointly fund additional roads which enhance the performance of the national road network.

**3.158** The committee considers that the Commonwealth should review the extent of a national road system to determine the appropriate coverage for the roads of national importance category.

**3.159** The Department of Transport and Regional Development advised that, through its dealings with the States and Territories, it is aware of a number of important interregional links performing a similar task to the national highway (Sub 482, *Submissions* p. 858). The Commonwealth could fund such roads as roads of national importance rather than as extensions to the national highway system if it decides to expand its funding responsibilities.

**3.160** The committee noted that an Infrastructure and Planning Project (IAPP) was being undertaken by the States/Territories and the Commonwealth within the Australian Transport Council, aimed at developing criteria and identifying nationally significant road infrastructure which meets the criteria (Sub 423, *Submissions* p. 158). The Department of Transport and Regional Development noted that for the purposes of the project, nationally significant road infrastructure in urban areas was defined as:

> major corridors for the purpose of nationally significant activities (tourism, trade and commerce, inter-regional travel, major/strategic orbitals), major elements of transit and road systems, major freight nodes and terminals and links to these, links to airports or ports. (Sub 482, *Submissions* p. 859)

**3.161** Nationally significant road infrastructure in non-urban areas was defined as:

> national highways and major roads linking the nation, special purpose links supporting strategic activities and major regional links supporting the primary network. (Sub 482, *Submissions* p. 859)

**3.162** The Department of Transport and Regional Development advised that work is proceeding with the project.

**3.163** The committee also noted that the Bureau of Transport and Communications Economics (BTCE) is undertaking a number of studies related to the assessment of the adequacy of Australia's transport infrastructure to the year 2020 (Sub 655, *Submissions* p. 1475).

**3.164** The committee considers that the Infrastructure and Planning Project and the work being undertaken by the BTCE provides a good basis for determining the adequacy of a national road system and in particular the nature of the roads that should comprise the roads of national importance category.

**3.165** The committee considers that the Commonwealth should be mindful of the need to avoid diluting Commonwealth road funding by undertaking to fund an extended Commonwealth network of roads in the absence of an increased road funding budget. Applying the same budget to a larger network will reduce the capacity of the national highway system and the roads of national importance category to meet national objectives and the needs of industry and the community.

**3.166** The committee accepts that a mechanism needs to be developed and introduced to review the standard and performance of the national road system at regular five year intervals (Sub 482, *Submissions* p. 859). Such a review would be consistent with the Commonwealth's strategic role in developing Australia's transport network.

### 3.167 Recommendation 13

**The committee recommends that the Commonwealth work with the States/Territories to determine a suitable national road system comprising the national highway and roads of national importance, and its integration with State/Territory arterial roads.**

### 3.168 Recommendation 14

**The committee recommends that the Commonwealth assess the standard and performance of the national road system every five years.**

### 3.169 Recommendation 15

**The committee recommends that the present scope of the national highway system be maintained and that the inclusion of additional roads within the Commonwealth's national road system should be funded as roads of national importance and accompanied with a commensurate increase in Commonwealth road funding.**

# Conclusion

**3.170** The objectives for the national highway system should be clear and up-to-date. The committee considers that the objectives should be reviewed and incorporated into the *Australian Land Transport Development Act 1988* and its accompanying *Notes on Administration*. The Commonwealth should develop performance indicators against the objectives to provide a basis for evaluation of the performance of the national highway system.

**3.171** The committee considers that parts of the road network may be deficient in some respects. The committee received evidence that some rural roads were unfit to meet the needs of industry. The committee also received evidence that an efficient interface must be maintained between the road network and other modes of transport.

**3.172** Bridges are an integral part of the road system. Evidence presented to the committee during the inquiry indicates that deficient bridge infrastructure is emerging as a major weak link in Australia's road system. As many bridges are unable to cater adequately and safely for heavy vehicles, moves to increase mass limits for heavy vehicles will exacerbate this problem. The committee considers that the Australian Transport Council in association with local government should develop a program to address deficient bridge infrastructure.

**3.173** The committee acknowledges that constructing and upgrading national highway links through urban areas is an expensive undertaking. Urban national highway links are required to cater for local and commuter traffic in addition to the national highway system's task of catering for interstate and interregional traffic. The committee considers that the issues of concern raised in relation to the adequacy, extent and funding of the national highway in urban areas need to be considered in the context of the development and adoption of a national strategic transport plan as recommended in chapter 2 of this report.

**3.174** The committee considers that the national highway system and the roads of national importance should be considered as two tiers of a single national road system and that research such as that being undertaken by the Bureau of Transport and Communications Economics and the Australian Transport Council's Infrastructure and Planning Project should be used as a basis for considering the adequacy of a national road system.

**3.175** The committee recognises the many calls to include additional roads in the national highway system and the roads of national importance categories. The committee considers that the present scope of the national highway system is adequate and that the inclusion of additional roads within the national road system should be funded as roads of national importance. The funding of roads of national importance should not be at the expense of funding for the national highway.