9.4 SOCIAL ENVIRONMENT

9.4.1 Commercial value

The commercial value of land in the study area was defined to be the potential for new or expanded financial and commercial opportunities (not including agricultural or mining activities). To map this environmental factor the density of cadastral blocks was used as a proxy for commercial value. The greater the density of cadastral blocks, the greater the commercial value. As would be expected the areas around Lithgow and Mount Victoria represented the greatest levels of commercial value, while low density rural areas held comparatively lower commercial value. Regions were delineated according to:

- Greater than 100 cadastral blocks per square kilometre (‘Cities’).
- Between 50 and 100 cadastral blocks per square kilometre (‘Major Towns’).
- Between 25 and 50 cadastral blocks per square kilometre (‘Small Towns’).
- Less than 25 cadastral blocks per square kilometre (‘Rural’).

Cadastral layers were obtained from the Lithgow and Blue Mountains City Council local government areas. The commercial value mapping is displayed in Figure 9.10.

9.4.2 Residence and key workplace locations

The majority of residences within the study area occur within Hartley Valley, Lithgow Valley and Marrangaroo Valley. The townships on the eastern plateau (Mount Victoria, Bell) comprise a relatively small proportion of residences. The agricultural land within the Hartley Valley is comprised of large cadastral blocks resulting in the dispersal of residential structures, with small more urbanised pockets (eg Hartley Vale) servicing the needs of these rural areas. Apart from the relatively small number of residences along Chifley Road, Sandham Road, and the communities at Dargan, Newnes Junction and Clarence, the Newnes Plateau itself is largely devoid of residences as the majority of land is National Park, State Forest, or belongs to the Australian Defence Force.

Residence location is an important constraint as the dwellings represent sensitive receivers in terms of noise, vibration, air quality, odour, and visual amenity. Residential structures and key workplaces were visually identified from the Department of Lands aerial photography (2000). All visible structures were identified and geo-referenced where possible to capture the locations. Buffers of 100m (Figure 9.11) were mapped around these identified structures to minimise the risk of potential road impact. Due to this buffering effect it was felt unnecessary to identify all residential structures within densely populated areas (eg Lithgow), where several structures were covered under the buffer of one residence. However, the buffer of the external residence was maintained at 100 m. Large or open work environments (eg mines, Lithgow Correctional Centre) were also accounted for and are indicated on Figure 9.11.
Figure 9.10  Commercial opportunities
Figure 9.11 Residence and workplace locations
9.4.3 Education facilities

There are eight schools located within the study area (Figure 9.12). The majority of these schools are located within the City of Lithgow, two are located north of Marrangaroo and one in Mount Victoria. For both health and safety reasons, and the need to provide suitable learning environments, it was considered that a major road should be located away from these institutions. The location of the schools was ascertained from mapping provided by the New South Wales Department of Education and Training.

9.4.4 Social services

A number of social services are present within the study area. Public social services include:

- Police stations (three).
- Fire Brigade stations (four).
- Ambulance stations (one).
- Public hospitals (two).
- Rural Fire Brigade stations (eight).

The majority of these services are located within the urban areas of Lithgow and Mount Victoria. In contrast, the Rural Fire Brigade Stations are located in more remote areas surrounded by greater proportions of bushland (Figure 9.13). It is considered beneficial to ensure such services have ease of access to major roadways to minimise travel times to emergencies when required.

9.5 LAND USE AND PLANNING ENVIRONMENT

9.5.1 Land tenure

The majority of land within the study area is privately owned. In the northern and eastern portions of the study area there are substantial tracts of land owned and controlled by both State and Federal governments (eg State Forest and National Park (Figure 9.5). In addition to these areas there are numerous small parcels of Crown Land scattered across the study area.

9.5.2 Major projects

A search of the New South Wales Department of Planning Major Projects Register revealed the presence of seven applications (including both approved and pending approval) for works considered as a Major Project under State Environmental Planning Policy (Major Projects) and to be assessed under Part 3A of the Environmental Planning and Assessment Act 1979. The projects (Figure 9.14) include:

- Clarence Coal Mine extensions (at two locations - adjacent to Chifley Road and approximately five kilometres east of Chifley Road).
- Newnes Kaolin Sands Project (to the east of Chifley Road).
- Expansion of Wallerawang Quarry (west of Marrangaroo).
- Angus Place Coal Project (north of Marrangaroo).
- Mount Piper Power Station.
- Ivanhoe North Rehabilitation Project.
- Invincible Open Cut Coal Mine.
Figure 9.12 Educational facilities
Figure 9.13 Social services
Figure 9.14  Approved major projects and defence land
It is considered likely that there is potential for cumulative impacts as well as benefits between these major projects and a road corridor. Primarily it is expected that some benefit may be received through the improvement of access to major project sites. However, it is recognised it is not desirable for a proposed corridor to pass through land currently/potentially approved for an alternative purpose.

9.5.3 **Australian Defence Force land**

Much of the land to the north and east of Marrangaroo has been the property of the Australian Defence Force at one point in time, particularly during the period between the two World Wars. Currently land occupied by the Australian Defence Force consists of 1338 ha in the foothills of the Newnes Plateau surrounding the Marrangaroo Valley (Figure 9.14). Consultation with the Australian Defence Force indicates that both currently and previously held Australian Defence Force land may contain Australian Defence Force waste, unexploded ordinances, and exploded ordinance remnants. Testing of alternative warfare methods such as mustard gas has also been undertaken within the area and may have contaminated some portions of the study area. No specific mapping identifying the location of such pollutants and contaminants currently exists. However, it is believed that the majority of such activities were conducted on the northern portion of Australian Defence Force land.

Substantial clearance and remediation costs are involved in circumstances where exploded and unexploded ordinances are present.

Due to the need for the Australian Defence Force to undertake on-site manoeuvres and training it is important that access to and within the site be maintained. Therefore, any proposed corridor to pass through Australian Defence Force land would be required to ensure on-site connectivity and transport access is maintained.

9.5.4 **Mining leases and plantations**

There are substantial natural resources within the study area. Consequently, a large number of mining leases have been applied for and are currently active in the area. These leases include the extraction of coal, iron ore, petroleum and clay (Figure 9.15). The presence of natural resource licences presents a constraint on potential corridor options due to the high associated potential value attached to the mineral resources. In particular, due to the potential for subsidence, the construction of roads may limit or preclude long-wall mining to occur below a corridor, potentially reducing the volume of resource able to be mined. Compensation for the reduction in usable resources may be required. Alternatively, certain approaches to road design may allow for the two activities to occur concurrently.

A search of the Department of Primary Industries MinView database, as well as consultation with some of the mine operators within the region identified the presence of nine mining titles currently active within the area including:

- Hartley Valley Coal Company*.
- Newnes Kaolin Pty Ltd.
- Coalex Pty Ltd*.
- Centennial Springvale Pty Ltd*.
- Walker Quarries Pty Ltd.
- Ivanhoe Coal Pty Ltd*.
- Coalpac Pty Ltd.
* Companies forming part of the Centennial Coal Group.

It is important to note that sand mining is regulated by the Department of Lands rather than the Department of Primary Industries. A similar database of sand mining activities was not available for interrogation. Therefore, sand mining operations were accounted for by site inspections and aerial photography review. Open-cut sand mining operations are included in the mining areas shown in Figure 9.11. In addition, the Sydney Construction Materials Strategy (2005) was reviewed and used to inform the corridor selection process in relation to sand extraction operation.
Figure 9.15  Mineral, coal and petroleum application and titles