

## CHAPTER 6 INFRASTRUCTURE

### STRATEGIC PLANNING DIRECTIONS

The following directions and actions to inform the development of the Land Use Strategy and Local Environmental Plan fall out of the infrastructure analysis of the LGA:

- Adopt a growth rate of between 0.5% and 1% to align future urban growth with both social and physical infrastructure capacity.
- Ensure development does not occur at a rate, or within locations, that would be to the detriment of the existing community.
- Ensure all new urban development within Layers A and B, Figure 4 Chapter 4 are connected to reticulated water and sewer.
- Continue to investigate a reliable and secure bulk water supply for the Lithgow LGA to reduce dependency on the Fish River Water Supply Scheme, including but not limited to the Clarence Water Transfer Scheme.
- Ensure all new development incorporates water sensitive urban design principles.
- Align the supply of urban lands within the town of Portland to the capacity of the Sewage Treatment Plant and the planned timeframes (beyond 2017) for upgrade.
- Align the release of subdivision certificates within the South Bowenfels Study Area to the provision of water and sewer infrastructure augmentation works.

## CONTEXT

This chapter relates to the levels of infrastructure and services for the Lithgow LGA. The 2007 Local Profile substantially outlined the base data regarding services and infrastructure within the Lithgow LGA including but not limited to:

- Water supply infrastructure
- Sewerage infrastructure
- Stormwater infrastructure
- Waste disposal
- Utilities
- Fire service infrastructure
- Cemeteries
- Road Network
- Rail network
- Bus services.

This chapter, where necessary, will identify and update the key infrastructure facts, issues and implications for land use planning. The planning and provision of key infrastructure must be intrinsically linked to sustainable land use planning and the staged release of urban lands.

## PLANNING AND LEGISLATIVE FRAMEWORK

Infrastructure provision within the Lithgow LGA is currently governed by the following key state and federal planning and regulatory framework:

Instrument Name
<b>KEY ACTS</b>
Environmental Planning and Assessment Act 1979
Local Government Act 1993
Water Management Act 2000
Roads Act 1993
<b>KEY MINISTERIAL DIRECTIONS (Section 117)</b>
Directions 1.1 Business and Industrial Zones
Direction 3.1 Residential Zones
Direction 5.2 Sydney Drinking Water Catchments
Direction 6.2 Reserving Land for Public Purposes
<b>KEY STATE ENVIRONMENTAL PLANNING POLICIES</b>
Drinking Water Catchments Regional Environmental Plan No 1 (Deemed SEPP)
Infrastructure SEPP (2007)

Please refer to Chapter 3 for more detail.

## KEY INFRASTRUCTURE

### WATER

1. **Farmers Creek Dam (operated by LCC).** The catchment is relatively small however the supply is supplemented by Clarence Colliery Water Transfer Scheme (CCWTS) by up to 5M/L day, enabling the Farmers Creek Dam to be maintained at sufficient capacities during drought. This supply goes to Oakey Park Water Treatment Plant which in turn supplies Lithgow and Marrangaroo. This is supplemented by the

Fish River Water Supply Scheme (FRWSS). The identified residual capacity is 3,380 households, or a population increase of 8,451.

The Oakey Park Water Treatment Plant has an operating capacity of 15ML per day but due to system constraints is limited to 12ML per day.

The current average daily demand from this Plant is 4.5 ML and the peak demand is 13.1 ML\*

\*It is likely that the value for the peak day demand occurred during bushfire fighting operations and may under normal circumstances be lower.

2. **Fish River Water Supply Scheme (operated by State Water).** The source of this supply is Oberon Dam. Areas supplied from Fish River are via the Duckmaloi Water Clarification Plant which supplies water to Wallerawang, Portland, Lidsdale, Rydal, Cullen Bullen, Glen Davis, Marrangaroo and can supply Lithgow if required. The capacity of this supply is restricted in times of drought and the capacity to supply further development may be limited. The identified residual capacity for the Fish River Water Supply Scheme (treated water) is an upper limit of 3,042 households or a population of 7,605. Low water levels in Oberon Dam, has at times, affected water quality via discolouration. It is understood that testing has identified that there is no health risk however discolouration makes the water undesirable to consumers. Sydney Catchment Authority has not taken water from Fish River since November 2008 and Delta Electricity has scaled back its use of the water.

The current average daily demand from this supply is 2.4 ML and the peak demand is 7.3ML.

Both catchments for these supplies are relatively small. The Farmers Creek Dam relies on a catchment of only 12 km<sup>2</sup> and has a storage capacity of 450ML and the Oberon Dam a catchment size of 50 km<sup>2</sup> and has a storage capacity of 4500ML.

It is considered that the current water treatment infrastructure at Oakey Park will meet the population growth forecasts of 0.5% to 1% per annum for the Lithgow urban area. The higher growth scenario of 2% growth per annum is beyond the planned capacity of this infrastructure with such being reached at 2024.

## SEWERAGE

In terms of sewerage the LGA is serviced by three sewage treatment plants:

1. **Lithgow Sewage Treatment Plant.** The Lithgow plant has a current capacity of 23,000 equivalent persons (EP). The current use is approximately 18,000 EP leaving a residual of 5,000 EP. This is within the potential population growth scenarios for lands currently zoned in the Lithgow and Marrangaroo urban areas. The inclusion of the new lands including those currently reserved for future urban use and Marrangaroo Investigation Areas are beyond the current capacity of the plant. This Sewage Treatment Plant is undergoing upgrades to improve sewage water quality.
2. **Wallerawang Sewage Treatment Plant** has a capacity of 2,200 EP with a current loading capacity of 2000 EP, leaving a residual capacity of 200EP. This STP is currently undergoing upgrades to improve water quality and power supply and will increase capacity to 3,300 EP.
3. **Portland Sewage Treatment Plant** has a capacity of 2,200 EP. This plant has no residual capacity and is operating at full loading. It also requires upgrades however the NSW Minister for Water has advised that it is

not possible for the Portland Plant to be included in the current round of Country Towns Water and Sewerage funding and a new round will not occur until after 2017. The Department of Public Works will investigate on Council's behalf options for improvements pending a plant upgrade.

4. **Trade Waste.** Lithgow City Council provides a Trade Waste service to connected customers within the occurred areas. Restrictions on discharges are subject to individual licences that follow the Trade Waste Policy requirements.

## STORMWATER

Stormwater management is very limited within the LGA. At present, Lithgow urban area has the basis for a substantial stormwater management system whilst both Wallerawang and Portland have existing systems that are limited in capacity and quality.

The stormwater system in Lithgow is comprised of a series of concrete pipes and open channels which empty into Farmers Creek. The system does not have any stormwater management structures or controls. The Wallerawang stormwater is comprised of clay or concrete pipes, and flows into the Coxs River. The Portland stormwater system is comprised of a series of clay and concrete pipes which flows into Limestone Creek.

## WASTE FACILITIES

Council currently operates one major waste disposal facility at Lithgow and six other smaller unsupervised landfill sites at Portland, Wallerawang, Cullen Bullen, Angus Place, Capertee and Glen Davis. In addition to this Council operates three transfer stations at Hampton, Meadow Flat and Tarana.

All existing landfill sites have limited estimated lifetimes ranging from 0- 4years.

Council has development consent for a new landfill at Blackmans Flat which is situated approximately 16km north of Lithgow. The proposed development includes:

- Establishment of the Waste Management Facility (WMF) including preparation of the mine void for land filling, and construction of a waste transfer station and recycling facility, weighbridge, road access, and associated developments.
- Land filling of solid and inert waste with a "dry tomb" in the order of 35,000 to 40,000 tonnes per annum for a period of approximately 15 years.
- Storage and transfer of recyclable waste including scrap metal, glass and plastics, paper and cardboard, green waste and other recoverable materials.

Council is planning on decommissioning its old waste management facilities in order to undertake waste disposal at its new site in Blackmans Flat. The construction of the Blackmans Flat facility is in the current management plan for completion in the 2009/2010 financial year. However, it is more likely that commissioning of the landfill will be delayed pending final results of the possible life extension of the Lithgow solid waste facility.

Council will be activating the Blackmans Flat consent by carrying out works to satisfy substantial commencement and prevent lapsing of the development consent by December 2011.

Until the facility is commissioned there is capacity at the Lithgow landfill that should adequately cater for waste until commissioning of the new facility. There are varying life spans for rural landfills that may be required to be closed prior to the commissioning of the Blackman's Flat facility.

Council has resolved to investigate an extension of the life to the Lithgow solid waste facility. Council has engaged Consultants to investigate options with a view to applying to Department Environment Climate Change & Water for a variation to the Landfill Environmental Management Plan.

The management of the old sites as contaminated sites is to be considered as is the viability of transfer stations to service one central facility.

## **ONSITE EFFLUENT DISPOSAL AND WATER SUPPLY**

Settlement not serviced by reticulated water and sewer rely on on-site effluent disposal systems and on-site water storage tanks. The capacity of these systems is addressed on a site by site basis.

## **ROADS/TRANSPORT**

Major highways and the main western railway are the two major transport systems

Major Highways and roads include Great Western Highway, Castlereagh Highway, Jenolan Caves Road and Bells Line of Road.

The Bells Line of Road provides an alternate route to the Great Western Highway across the Blue Mountains and into the north western sector of Sydney.

The road network through and within the LGA comprises a number of significant arterial roads that connect major towns within the area to each other and surrounding major regional centres.

Both Victoria Pass and the Zig Zag Railway were major feats of engineering and planning in their day and are transport heritage of state significance.

A large proportion of the north eastern section of the LGA is covered by the Wollemi, Blue Mountains, Gardens of Stone National Parks, Capertee National Parks and Marrangaroo National Parks. The size and rugged nature of the National Parks and State Forests prohibits general road access to many areas of the overall LGA.

There is a significant volume of heavy vehicles using the road network within the LGA. However, B double truck access over the Blue Mountains to Sydney is still restricted.

Council's urban road network includes 192.5km of urban sealed roads, 23.9km of urban unsealed road and 43.8km of arterial road which are all sealed.

Council's rural road network consists of 411.8km of unsealed rural roads and 201.6km of sealed rural roads.

## SUMMARY OF ISSUES

Table 1. Summary of key infrastructure issues

INFRASTRUCTURE ISSUES	WHY IS IT AN ISSUE?
Secure and reliable bulk water supply	<ul style="list-style-type: none"> <li>• The provision of a bulk water supply is fundamentally critical to sustain any urban community. It also influences key investment decisions for prospective business and industry.</li> <li>• The LGA water supply is available through two sources, Famers Creek and Fish River Water Supply Scheme. Lithgow City Council is the authority for only the Farmers Creek supply. This creates issues surrounding water sharing, water allocations and pricing, agreements and responsibility for water quality and delivery of service. It also creates a disparity between service levels between Lithgow and the town centres of Portland and Wallerawang, villages and rural users.</li> <li>• The bulk water supply for the Lithgow LGA has been challenged in recent times through the effects of drought, a situation that may become more prevalent over time due to the vagaries of climate change.</li> <li>• In periods of sustained drought it would become necessary for Lithgow City Council to back supply water to the towns and villages through the Farmers Creek supply. This supply will not meet the peak daily demand of the existing serviced population base without extensive augmentation to the Clarence Water Transfer system.</li> <li>• Council along with its regional counterparts will need to investigate an alternative bulk water supply scheme, if the Lithgow and Oberon LGA's are to increase their population and industry base into the future.</li> </ul>
Capacity of infrastructure head works to service new development	<ul style="list-style-type: none"> <li>• All major Sewage Treatment Plants (STP) require augmentation to cater for future growth. The Lithgow STP upgrade is currently under construction and will provide for an additional 5,000 equivalent persons (EP) meaning that the potential growth scenarios for the existing urban zoned lands may be accommodated, however the future urban areas identified by this Strategy are beyond the capacity of this plant.</li> <li>• The Wallerawang STP upgrade has commenced and will provide an additional 1100 EP. Such will be sufficient to meet the demands of potential growth scenario of for the existing urban zoned lands; however the future urban areas identified by this Strategy may be beyond the capacity of this plant.</li> <li>• The Portland STP is currently at capacity and will not be upgraded prior to 2017. Growth in each of these town centres will be restricted to the capacities of these plants. Portland is not capable of absorbing any growth in real terms in the serviced areas until the STP is upgraded. This will require land allocation within this area to be restricted.</li> <li>• The Oakey Park Water Treatment Plant has a current operating capacity of 12ML per day. In order to totally remove reliance on the Fish River Water Supply Scheme and to supply water to all services areas of the LGA this plant will require upgrading.</li> </ul>
Aligning development to infrastructure provision	<ul style="list-style-type: none"> <li>• Past practice in new release areas such as South Bowenfels of enabling developers to only provide infrastructure to connect development sites to services without due regard to the impact on the downstream trunk systems or key head works has led to a shortfall of infrastructure which now must be met by Council.</li> <li>• The timing of the provision of this infrastructure may lead to the development of some areas being delayed and continuing operating deficiencies for existing areas.</li> <li>• The lack of an adopted infrastructure strategy for South Bowenfels and the lack of a detailed development servicing plan will create a significant cost burden for Council and</li> </ul>

INFRASTRUCTURE ISSUES	WHY IS IT AN ISSUE?
Dependence upon key state and regional road infrastructure	<p>delays for further development in this area.</p> <ul style="list-style-type: none"> <li>Industry and business development is highly dependent upon a fast and efficient road network for freight movement and visitor traffic. Upgrades to the state and regional road networks are critical to the future growth potential of the LGA and diversification of its industry base.</li> <li>Upgraded road links to the Sydney Basin will encourage further residential growth in the LGA as commuting time to employment and cultural /recreational facilities will be reduced, making the LGA a very attractive and affordable alternative to city living.</li> </ul>
Provision and Maintenance of Local Road Network	<ul style="list-style-type: none"> <li>The current dispersed population particularly in the rural areas impacts upon Council's financial and physical resources to provide and maintain an effective local road network.</li> <li>The demand being placed on Council's resources from rural areas are disproportionate to the rate base of these areas.</li> </ul>
Waste Management	<ul style="list-style-type: none"> <li>All current land fill sites are at or nearing their end life capacity. Council is planning to develop a new centralised waste management facility at Blackmans Flat.</li> <li>The effectiveness of a centralised facility will be challenged by the continued dispersed growth in rural living opportunities for the collection and appropriate disposal of waste.</li> <li>Closure and rehabilitation of existing landfills and their future land use and compatibility with adjoining lands requires careful consideration.</li> </ul>

Source: LCC

## DISCUSSION OF ISSUES

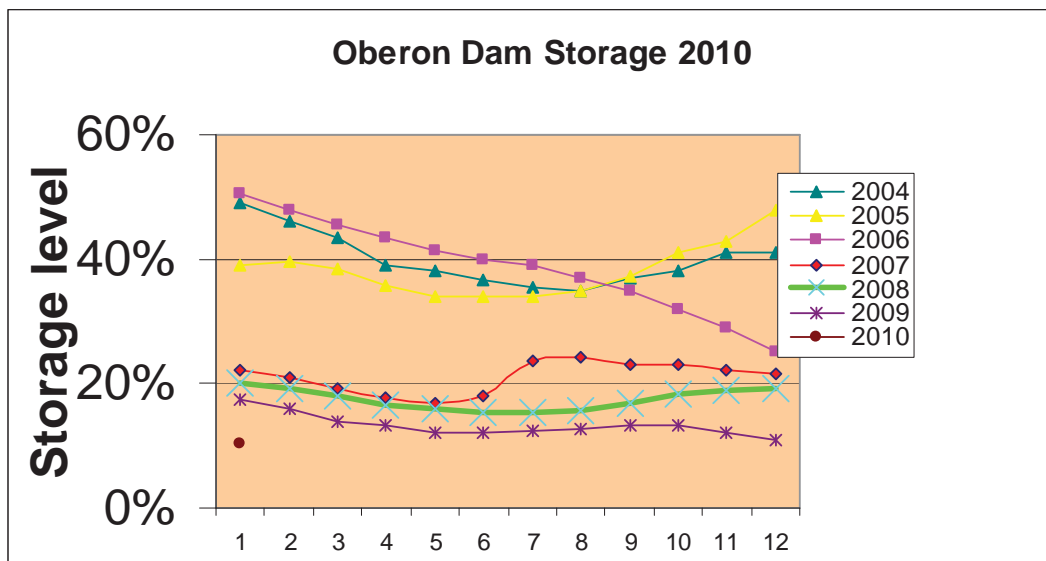
### PROVIDING A SECURE AND RELIABLE WATER SUPPLY

As has been critically evidenced in recent times, bulk water supply to those areas serviced by reticulated water in the Lithgow LGA is affected by the vagaries of varying climatic and operating conditions. This is particularly so in relation to those areas serviced by the Fish River Water Supply Scheme (FRWSS).

The Oberon Dam supplies the FRWSS. The extended drought lowered this dam to a critical level and raised serious concerns regarding the ongoing capacity of the FRWSS to meet current and future water needs of the Lithgow LGA. This was due to a number of inter-related factors:

- In September 07 (81months) the then drought became the longest (lowest cumulative inflow) on record (State Water). At this time the Oberon dam level was 23.7%. This situation worsened through to March 2010 when the dam reached its lowest level of 10%. Figure 1 shows the levels of Oberon Dam over the period 2004 - Jan 2010.

Figure 1. Oberon Dam Storage 2010



- Dam levels may not recover as quickly nor sustain yield for as long due to theoretical relationship between dam inflows and rainfall not matching due to more than those two factors.
- Reduction in demand patterns does not reflect the model behaviour.
- The influence of climate change has not been accurately modelled.
- The catchment of Oberon Dam is only 50km<sup>2</sup> and as such is potentially more prone to drought.
- The FRWSS services the Oberon township, Lithgow LGA, Delta Electricity and feeds into the Sydney Catchment. The diversity of users impacts on the viability of the supply with particular reference to a desire for each LGA to increase its population levels.

In 2008 State Water Corporation revised a Drought Management Strategy to address the bulk supply of water through the FRWSS. This Strategy sets out dam trigger levels and associated levels of water restrictions to be applied. It also triggers the establishment of a drought management committee when the Oberon Dam falls to 60% to meet at regular 6 week intervals or once the storage level is 30% or below at intervals determined by each 5% drop.

Through this Committee a series of options to address the falling levels of the Oberon Dam have been investigated and have resulted in the following actions:

- Introduction of trigger points for introduction of water restriction levels for both (FRWSS and Farmers Creek) supplies.
- Back feeding of water from the Farmers Creek Supply to service the Marrangaroo urban areas.
- Commencement of a drought relief project funded by NSW State Government to provide the required infrastructure to back feed water from the Farmers Creek supply to the Fish River infrastructure to service the towns of Wallerawang and Portland and villages on the FRWSS to alleviate pressure of the FRWSS.

- Peer review of the FRWSS Water Supply Drought Management Strategy.
- A feasibility/options report for the Clarence Water Transfer Scheme with the objective of transferring additional water from the Clarence Colliery to Council's water supply system.
- Investigation of a number of alternative options to source a sustainable water supply including recommissioning of old disused reservoirs as such as Middle River Weir, Farmers Creek Dam No 1 and further mine dewatering projects.
- Recommissioning of the Duckmaloi Weir;
- Installation of submersible pumps to enable deep water recovery from Oberon Dam should the dam level reach 5%.

The relative self sufficiency of Lithgow LGA to supply water to its current and future settlements is highly dependent on the successful upgrading of the Clarence Water Transfer Scheme to enable its continued operation following closure or disrupted operation of the Clarence Colliery.

To this end, Council has considered a feasibility and option report and has adopted a preferred option that involves the augmentation of the existing Clarence Colliery Water Transfer System to increase the delivery from 5.5 ML/day (current) to 14 ML/day. This will be achieved by;

- Upgrading of Clarence Colliery's main dam pump station, which may involve supplementing the existing pumps with a new pump, or, depending on their condition replacing the existing pumps with two new pumps.
- Duplication or increase in size of Clarence Colliery's existing 225mm nominal diameter 1.3 km steel pipeline from the main dam to the header tank.
- Upgrade of the LCC pump station, replacing the existing pumps with two new pumps and the upgrade of electrical equipment.
- Duplication or increase in size of the existing rising main from LCC's pump station to a location which discharges directly to the Farmers Creek Dam.

Council has entered into a funding agreement with the Commonwealth Government. However, more recently Council has been advised that the Department of Environment and Climate Change will not permit the discharge of flows from the upgraded system into the surrounding tributaries involving a swamp and this has resulted in a re-scoping of the project to include a pipeline around the swamp. This has added an estimated \$1.5 million to the cost of the project. At the time of writing this Strategy, Council was awaiting the results of representation made to both State and Federal Government to meet this funding shortfall.

It should also be noted that sole reliance could not be placed on bulk water supply from the Farmers Creek Dam supplemented by the proposed augmented Clarence Transfer system due to restriction of the Oakey Park Water Filtration Plant only having a operational capacity of 12 -13 ML/d. Council would still need to maintain its relationship with State Water and the FRWSS to ensure water is available during sustained periods of high demand.

The implications of the above would suggest that Council should approach with caution any desire for significantly higher growth rates until such time as the issue of bulk water supply and upgraded treatment capacities within the LGA is addressed.

Should the timeframes for the augmentation of the Clarence Water Transfer System extend beyond the short term (0-3 years), this Strategy must consider options to limit the release of urban lands through the Local Environmental Plan or other alternative planning tools such as a staged release plan for identified undeveloped or new urban lands within a Development Control Plan.

## **INTEGRATED WATER CYCLE MANAGEMENT (IWCM)**

Council is currently undertaking an Integrated Water Cycle Management (IWCM) Evaluation. The ICWM will identify urban water service targets and issues relating to regulatory compliance and service delivery for the next 30 years.

The ICWM offers the opportunity to examine urban water supply, wastewater and stormwater management in a single planning framework in a whole of catchment context. With population growth and its accompanying urban footprint council is becoming increasingly aware that conventional water system management does not facilitate consideration of the "big picture".

Considering all water sources and uses in a single framework creates opportunities for increasing the efficiency of water use and improving management of the water cycle.

Should any issues be identified in the IWCM evaluation that cannot be addressed by existing and formally adopted actions, an IWCM strategy will be developed to address them.

This evaluation will address the issues of a secure and reliable water supply and should be available in the timeframe to further inform the development of the LEP.

## **LINKING WATER AND SEWERAGE INFRASTRUCTURE TO DEVELOPMENT AREAS**

It is imperative that Council's infrastructure planning correlates with the planned urban development locations and demands.

Currently within the LGA there are areas where infrastructure provision and planning have not kept pace with development demand or identified zoned areas for development and as such infrastructure capacities are under pressure. The two key areas where this has occurred are South Bowenfels and Portland.

### **SOUTH BOWENFELS**

In 2003/4 Council rezoned a major land release at South Bowenfels for standard residential development. South Bowenfels has been the primary growth area within the LGA for the past decade and is planned to continue to be so for the following decade.

This urban release was not supported by a strategic infrastructure strategy and as such individual developments have been approved and constructed without regard for the overall catchment infrastructure needs. Development has also occurred outside of infrastructure sequencing with resultant impacts on an increased number of downstream trunk assets.

In terms of water supply development of this area required a new 2 ML water reservoir that is currently under construction. In preliminary planning this reservoir was only to provide additional storage by linking with the existing reservoir on the opposite side of the Great Western Highway. However as this area has experienced some supply issues, planning is currently underway to provide reticulation from this new reservoir to service the new urban release areas on the western side of the Great Western Highway.

In the short term (0-3) years the existing water supply system is considered sufficient to meet the demand from the new developments under construction. Development of lands not already approved may be required to be delayed until the water infrastructure is finalised for this area.

In terms of sewerage infrastructure at South Bowenfels, it has been identified that continuation of the present sewage transfer mode will require significant augmentation of almost all existing downstream pumping stations back to the central sewage treatment plant. Council is currently investigating options to reduce the number of Sewage Pumping stations to transfer the load from the catchment back to the Lithgow Sewage Treatment Plant.

This may affect the ability of Council to issue Certificates in the short to medium term to enable connection to Council's sewerage network under the Water Management Act, and therefore the timing of development of all new subdivisions including those over which current development approvals have been issued.

This Strategy will therefore need to consider options to provide a staged release of lands within the South Bowenfels Release area through either LEP/DCP provisions as well as the introduction of a Development Servicing Plan.

## **PORTLAND**

The key issue facing development of the Portland urban areas is the capacity of the Sewage Treatment Plant. This plant has reached its capacity and it is not likely that an upgrade will occur prior to 2017 due to the lack of available funding.

The supply and demand analysis has identified that there are currently a potential lot yield of 801 allotments that may contribute to standard residential supply in the Portland precinct under current zoning arrangements. As this amount of supply will not be able to be serviced in the short term, this Strategy should consider back zoning some of these lands to reduce pressure on infrastructure in the 2012 LEP.

## **UPGRADING OF KEY ROAD INFRASTRUCTURE AND ROUTES**

As reported in the Lithgow Strategic Plan 2007, transport access to the LGA and central west is a key consideration for the community and is important to the regions social and economic development.

The proposed upgrades of the Great Western Highway and Bells Line of Road are both considered necessary to achieve growth within the LGA and Central West Region.

The Australian Government commissioned the Central West Transport Needs Study (CWTNS), to evaluate the appropriateness of existing land transport networks in meeting the short and long term needs of the Central West. This report can be located on-line at [Central West Transport Needs Study](#).

The key findings of the Study in relation to the Lithgow LGA are summarised below:

- No capacity problems were identified; existing size of network (road and rail) would be adequate for future needs for at least 25 years.
- Safety and network enhancements may be warranted in relation to the Great Western Highway, Main Western Rail line and inter-modal facilities at Parkes.
- There is a need to continue with the current policy of maintaining and investing in safety and overtaking land improvement programs including the Great Western Highway improvement in the short (2009-2015 period).
- Based on the current growth in demand, an improved Bells Line of Road (to 4 lanes and 80-100km/hr design speed) would not be needed and would be justified only after 2033.
- Need to assess rail investment policy and its impact on the Main West Line (Mount Victoria to Parkes).
- Public transport in the Central West should be improved in stages, in line with passenger demand as assessed by NSW Government.
- Detailed investigation to assess level of economic investment in the Main West line is required to achieve productivity benefits and its economic justification to assess the staged improvements of additional bus and rail services and regionally based rail passenger improvement options.
- Viability of the Central West economy is dependent on access to ports; access and capacity of Port Botany (up to 2021) can be maintained; beyond 2021 growth in freight traffic could be partially diverted to Newcastle; access to Port Kembla for coal traffic can be maintained in the short term, outer region upgrades required in the longer term; freight access from the region to non NSW ports would be facilitated by the proposed North South Inland rail facilities and potential connection at Parkes.

The Study also recognised the need for further investigation of the longer term needs. The key areas for Lithgow LGA are as follows:

- A full review of the long term (beyond 2033) need for additional transport capacity across the Blue Mountains. This would include:
  - Further investment in the Main West Rail line; and
  - Consideration of the need for additional road capacity generally along the Bells Line of Road, including investigation of the need to reserve a corridor.
- Consideration be given to a trial of a new Bathurst–Sydney rail passenger service.
- Continuation of the Great Western Highway west of Lithgow which would include a review of rural road capacity warrants.

## **GREAT WESTERN HIGHWAY UPGRADE MT VICTORIA TO LITHGOW**

In 2008 the Australian and NSW Governments announced the Mount Victoria to Lithgow Great Western Highway upgrade project to improve accessibility for communities in the Blue Mountains and Central West.

The objectives of the project are to:

- Improve road safety
- Improve road freight efficiency
- Cater for a mix of through, local and tourist traffic
- Be sensitive to the area's natural environment, heritage and local communities.

A preferred route for the GWH upgrade was announced in May 2010 and is shown in Figures 2-5.

Figure 2. Preferred route River Lett North

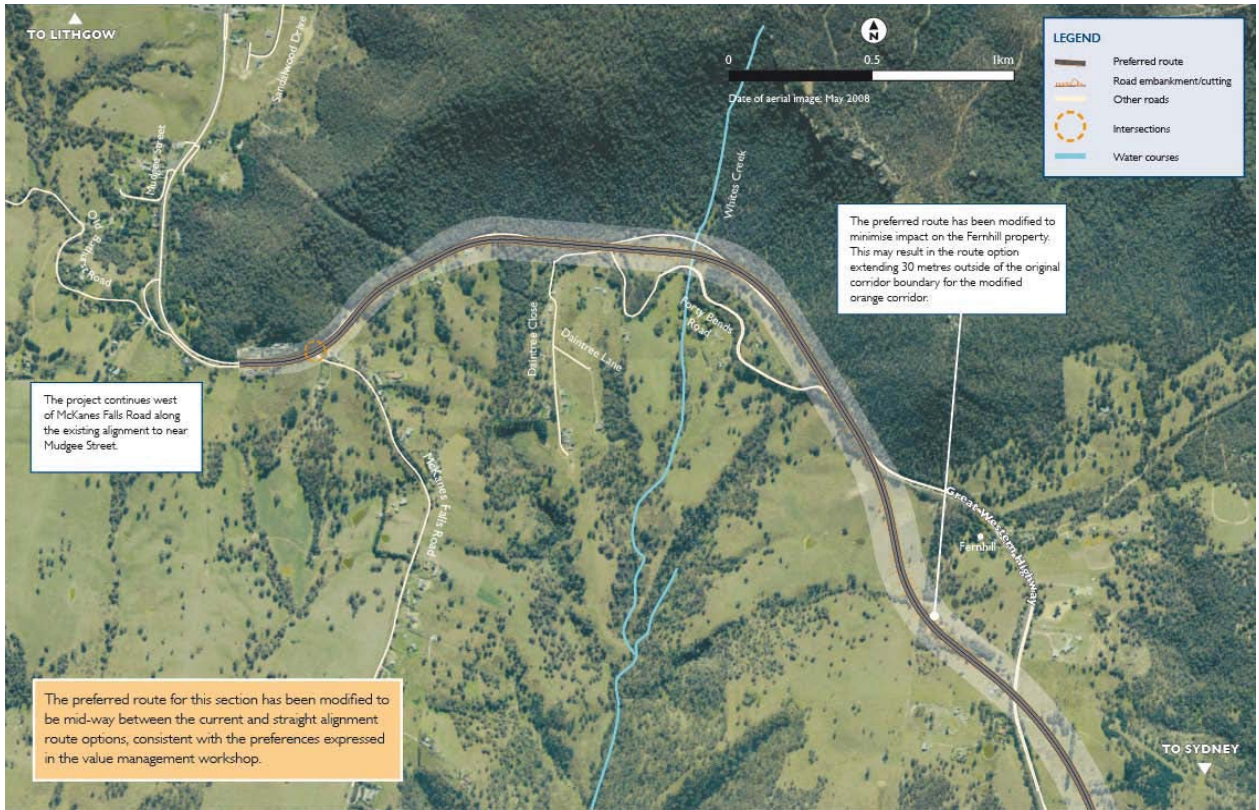


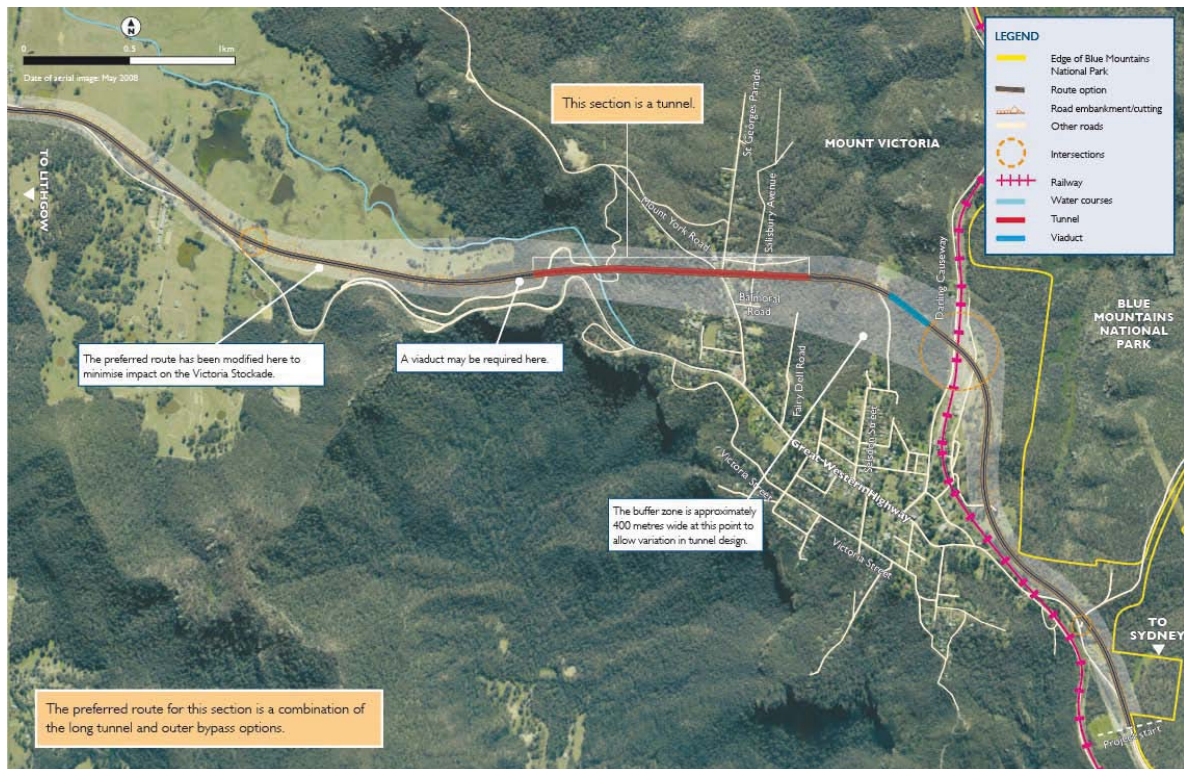
Figure 3. Preferred route River Lett South



Figure 4. Preferred route at Little Hartley



Figure 5. Preferred route that bypasses the main village of Mount Victoria



Within the Lithgow LGA this preferred route generally follows the existing corridor of the Great Western Highway and therefore has minimal impact upon the existing land uses. The area of greatest change is the deviation of the Highway to the south of the existing corridor at Little Hartley. This deviation provides an opportunity for a community "village" area to be developed to strengthen social and economic connections for the Hartley community.

Until this preferred route is finalised in detailed concept and design any future land use change of intensification in development in this area should be resisted.

## BELLS LINE EXPRESSWAY

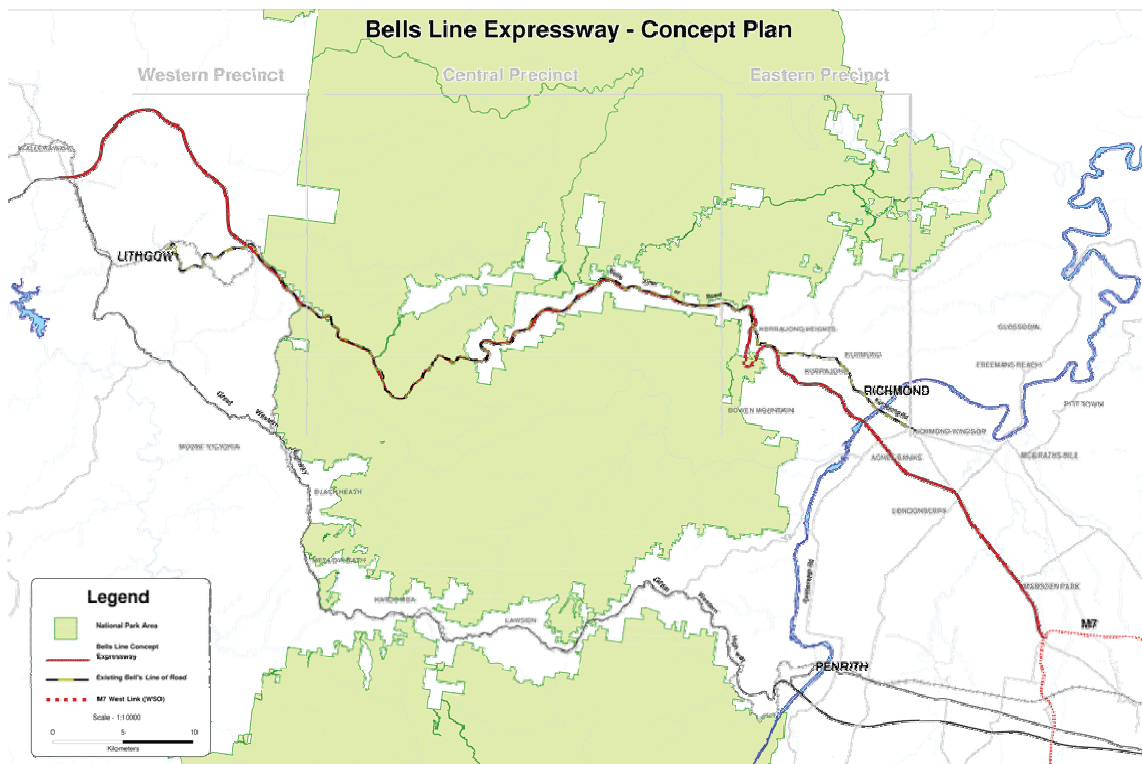
The concept route for the Bells Line Expressway is shown in Figure 6. This plan shows the termination of the Road on the Castlereagh Highway just north of the Marrangaroo Investigation area.

The Expressway proposal would extend from Windsor to Lithgow and if constructed would reduce travel time each way by 35 minutes for cars and 20 minutes for trucks (SKM, 2004) opening up the gateway to Western Sydney.

It is expected that an expressway over the mountains could induce growth in Gross Regional Product of 4.5% and employment of 3.9% after five years. (WRI, 1995).

Lithgow is strategically placed to benefit significantly in terms of potential for industry growth, tourism development, population migration and economic integration. The expressway would provide immediate opportunities for industry expansion in transport and distribution.

Figure 6. Bells Line Expressway – Concept Plan



Despite identifying this project as a long term need, the NSW Government is proceeding with the identification and reservation of a preferred corridor.

The proposed location of the Expressway termination point north of Marrangaroo provides clear justification for the location of new employment lands in this vicinity. The identification of these lands will be a function of the Strategy and LEP.

## SUMMARY OF KEY ACTIONS

### Action 6.1

- Prepare an infrastructure strategy for the Marrangaroo Urban Release Area and the Minerals Processing Park.

### Action 6.2

- Prepare a LGA transport strategy to consider existing and future transport needs including, regional and local roads, pedestrian and cycling and public transport needs.

### Action 6.3

- Prepare a Development Servicing Plan for the provision of water, sewer and stormwater infrastructure

### Action 6.4

- Prepare a Development Contributions Plan that includes provision of urban and rural roads, pedestrian and cycling transport infrastructure.

### Action 6.5

- Continue to lobby State and Federal Governments for the upgrade of the Great Western Highway and Bells Line Expressway.

### Action 6.6

- Determine an appropriate land use separation distance (buffer) to be implemented through the Local Environmental Plan from all sewage treatment plants, sewage pumping stations, water treatment plants and landfill sites.

### Action 6.7

- Complete the 2010 Waste and Recycling Strategy to transition to a centralised waste disposal facility at Blackmans Flat including closure of existing landfills, establishment of rural transfer stations and an appropriate community education program to minimise disposal of waste.

### Action 6.8

- Further investigate suitable areas for the supply and reuse of recycled water and stormwater.

### Action 6.9

- Prepare and implement a Land Monitor to monitor and review the take up of urban areas against infrastructure capacity.

### Action 6.10

- Identify and protect the catchment of the Farmers Creek Dam from land degradation and inappropriate land use through LEP provisions.