

740 Ridglands Road  
Manobalai NSW 2333  
3 May 2009

General Manager  
Muswellbrook Shire Council  
New England Highway  
Muswellbrook NSW 2333

Re: A Submission regarding Muswellbrook Traffic Study & Roadworks Plan

In relation to the Muswellbrook Traffic Study & Roadworks Plan I wish to raise the following points:

1. The Muswellbrook Traffic Study & Roadworks Plan relates ONLY to the Urban area of Muswellbrook township itself and is not a comprehensive study of the traffic and roads needs of the Shire as a whole,
2. As the Muswellbrook Traffic Study & Roadworks Plan necessarily focuses Council on the road needs identified within the township of Muswellbrook, a separate and balancing study of the Shire Roads Needs external to the Muswellbrook township area is required, (the most recent road needs studies external to Muswellbrook township being the Western Roads Strategic Study circa 1998 & the West Denman Road Strategy 2005).

In relation to the Muswellbrook Traffic Study & Roadworks Plan I raise the following criticisms of methodology:

3. The use of 2001 JTW & 2002 Origin-Destination surveys data is unreliable as significant changes in employment destinations have occurred between 2001 & 2009 due to extensive mine developments to the south (Mt Owen, Ashton, Glennies Creek, Rix's Creek, HVO etc) and south-west (Mt Arthur, United, Wambo, Mt Thorley etc) and the quantum and percentage of JTW with the origin of Muswellbrook in the directions of Singleton & Denman would have been expected to have increased from the 7.6% and 0.5% respectively indicated in the 2001 JTW & 2002 Origin-Destination figures with greatest impact on JTW south-west, being via Sydney St (Denman Rd.)
4. Of note, Table 2-3 does not include the Muswellbrook – Manobalai school bus route
5. Kayuga-Wybong Road is confusingly referred to as a sub-arterial road (Sect 2.5 Road Hierarchy, Figure 2-5 Road hierarchy used in the traffic model for 2007) and a collector road (Sect 4).
6. The 2002 OD results (based on 12 hours 6 am and 6 pm) indicated through traffic on the New England Highway represented between 21 % and 29% of all traffic – which would be at the lower end of 2009 expectation for the reasons given in 3 above.
7. Significantly, (in Future trip Distribution - Sect 6.4) the Future Land Use Assumptions (Sect 6.1) do not indicate how the traffic impacts of Mt Pleasant, Dartbrook, Kayuga and Castlerock Mines, the imminent commencement of construction and operations at Anvil Hill (Mangoola) Mine and Mt Arthur North (Open Cut, Underground & Consolidation) and major expansion to mines in the south And south-west were included in the study model.
8. Significant Road Network Changes (Sect 6.2) such as the inter-linkage of a completed Bylong Valley Way (a Heavy Vehicle Sydney Bypass) with Wybong Road - Kayuga Road are not included in the study.
9. Significant Road Network Changes (Sect 6.2) such as the inter-linkage of a completed Bylong Valley Way (a Heavy Vehicle Sydney Bypass) with Wybong Road - Bengalla Link Road and Thomas Mitchell Drive or Sydney St is not considered by this study.

### Conclusion: the Muswellbrook Traffic Study & Roadworks Plan

In the absence of more accurate data and given the slightly significant order of error induced in the model overall by the above limitations (points 3-9) the most appropriate traffic prediction and that which should be adopted at this stage for the Muswellbrook Urban Area is that outlined in S5 (future development, 2020 & 2037 networks, no Bypass).

Council should conduct a similar study program of Rural Roads needs within 3 years by which time significant sections of rural road widths, alignments, sub-surface works and surfaces, particularly of Denman Municipal Council vintage in the west of the Shire will have far exceeded their economic, design and construction life.

Based on 20 years experience of Muswellbrook Urban Roads, 35 years as a rural and urban road user travelling some 40,000 km pa intra & inter-state, the predictions and conclusions contained in the Muswellbrook Traffic Study & Roadworks Plan and consideration of the significant under-estimation of future peak hour traffic relating to Denman Rd (Sydney St) (as outlined in 3-9 above) and the future influx of through traffic via Skellatar/Mitchell/Lorne/Thompson and Skellatar Stock Route/Rutherford Rd I recommend the following variations and enhancements to intersections identified in the Muswellbrook Traffic Study & Roadworks Plan.

### Rationale: amendments to the Muswellbrook Traffic Study & Roadworks Plan

The fewer cessations of traffic flow with moderated speed, the better the air quality, human amenity and energy efficiency surrounding traffic flow.

Thus, phased traffic lights at Bell & Bimbadeen will interrupt N-S flow sufficiently permitting Rutherford & Thompson intersections to clear freely (using a seagull configuration).

Similarly, traffic lights at Skellatar Stock Route & Maitland Rd will interrupt E-W flow sufficiently permitting Wollombi, Anzac & Skellatar St intersections to clear freely with seagull configuration.

Traffic lights at Hunter & Brook Sts will permit Hill St intersection to operate more efficiently with approach realignment and seagull configuration.

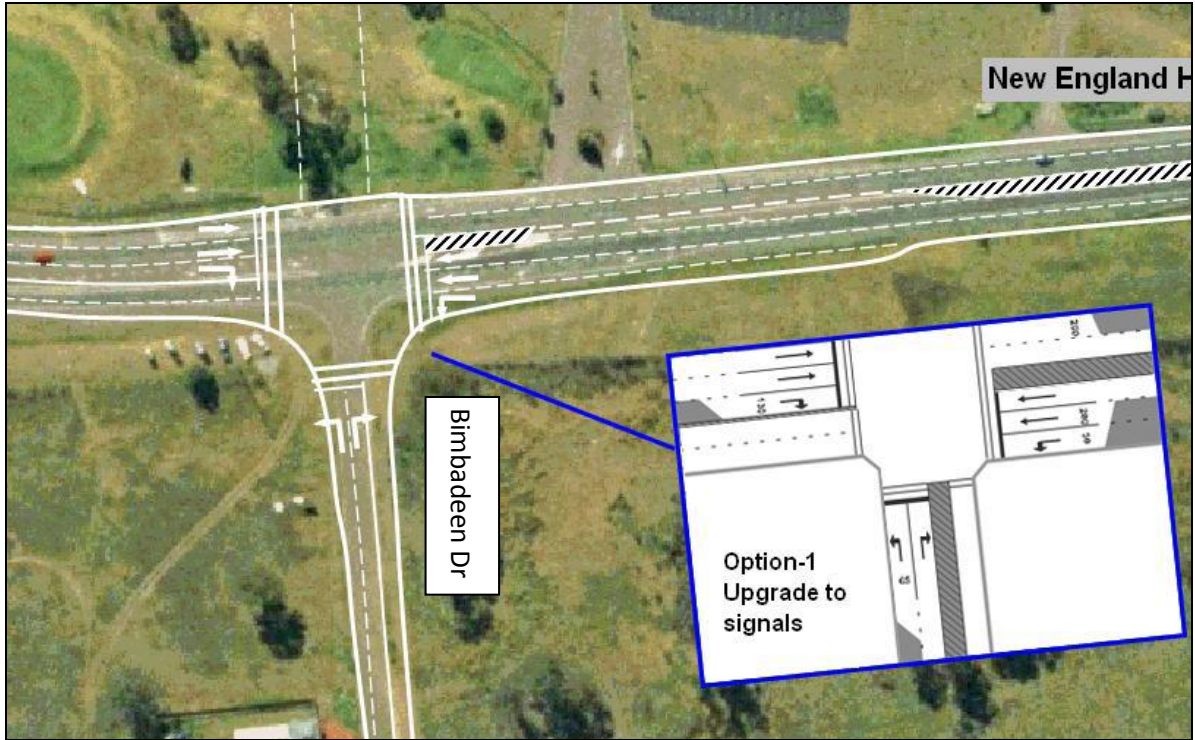
Pedestrian barriers (POW-Overpass) and Muswellbrook South school zone median separate traffic from pedestrians in dangerous locations. Matching of pedestrian light locations, crossings and facilities with major pedestrian movements and phasing with traffic lights efficiently and safely separates vehicles from pedestrians.

Left turn into William St and restriction of general traffic exits from William retain HV route, remove interruption to traffic flow in Bridge St, maintain economic viability of businesses adjacent to the railway and permit extension of pedestrian plaza fronting Simpson Park (noting Parramatta, Penrith, Newcastle & Bankstown have all reintroduced limited traffic flows into pedestrian malls will increased social & economic benefits.

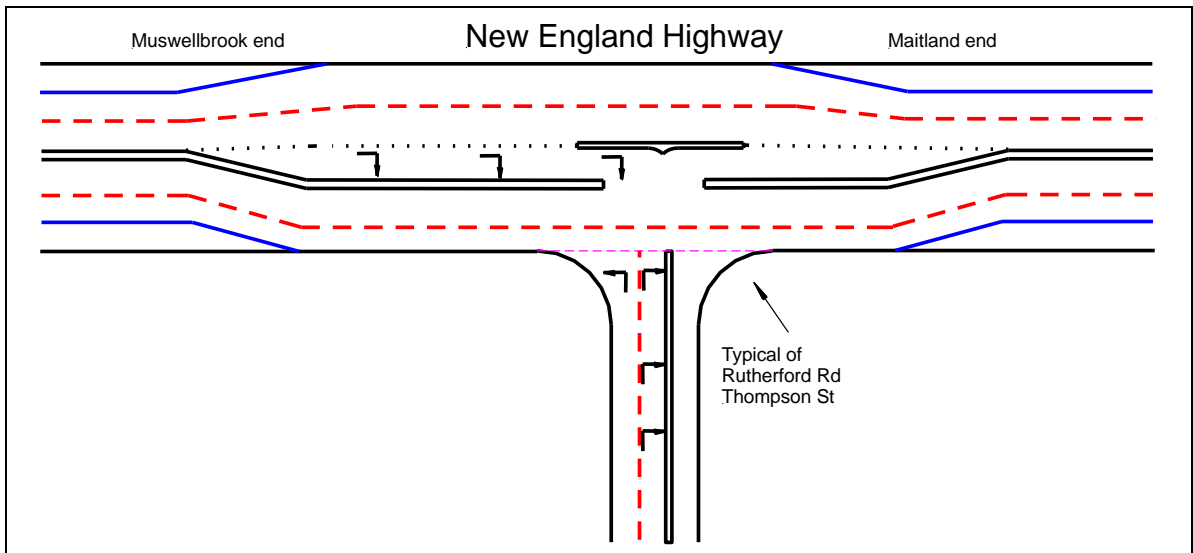
Turning bays Between Wilder & Gyarran Sts allow for Haydon St, Lorne St (East) and Wilkinson St traffic to perform a U turn for travel in a northerly or easterly direction.

## New England Hwy Intersections

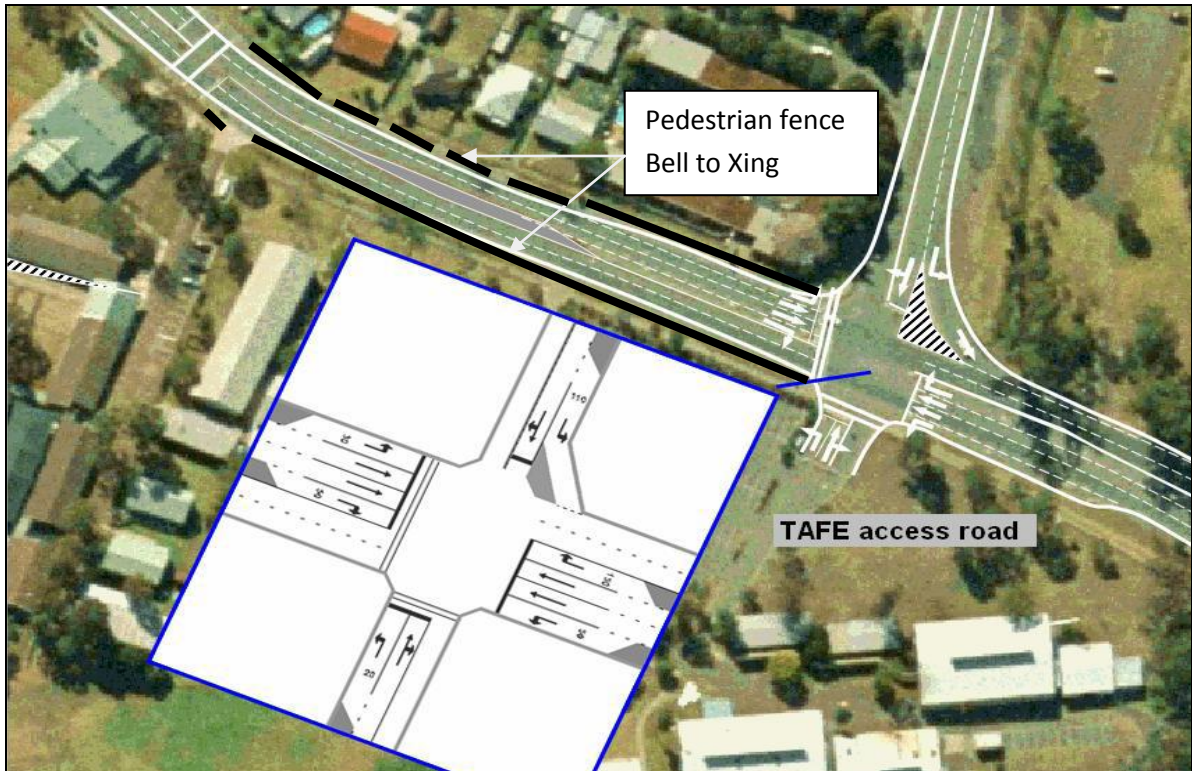
Intersection	Page/Fig	Study Recommendation	Suggestion	Priority (H,M,L)	Cost (H,M,L)
Bimbadeen Dr	p124, Fig 8.1	Options 1-2	Option 1 Traffic Lights	H	H



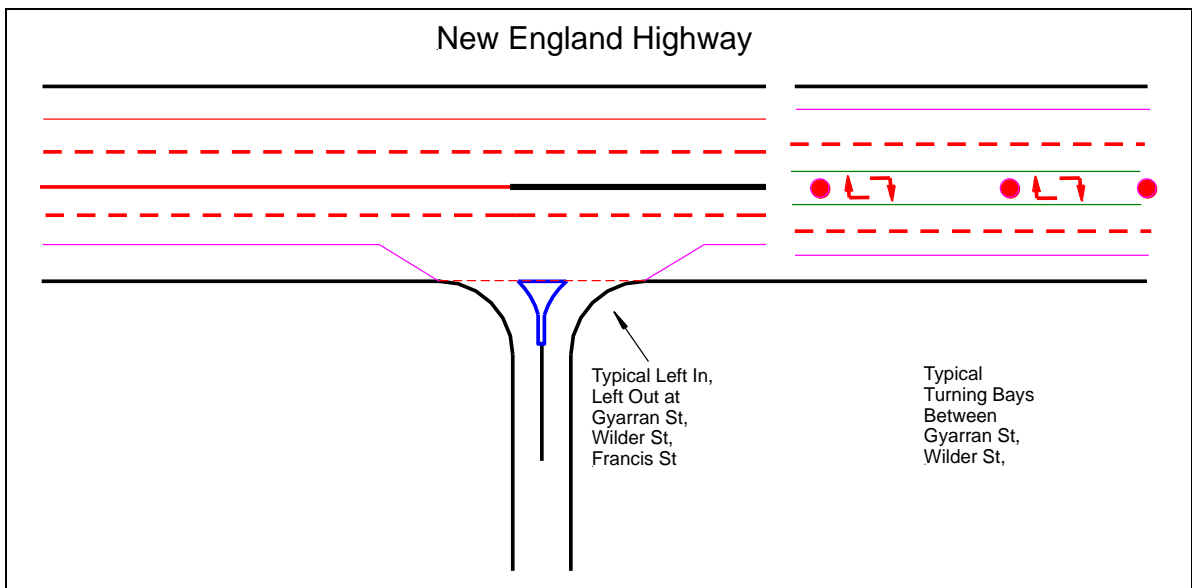
Rutherford Rd	p125, Fig 8.2	Options 1-3	Option 1 – Seagull	H	M
Thompson St	p128, Fig 8.5	Traffic Lights New	Option 1 – Seagull	H	M



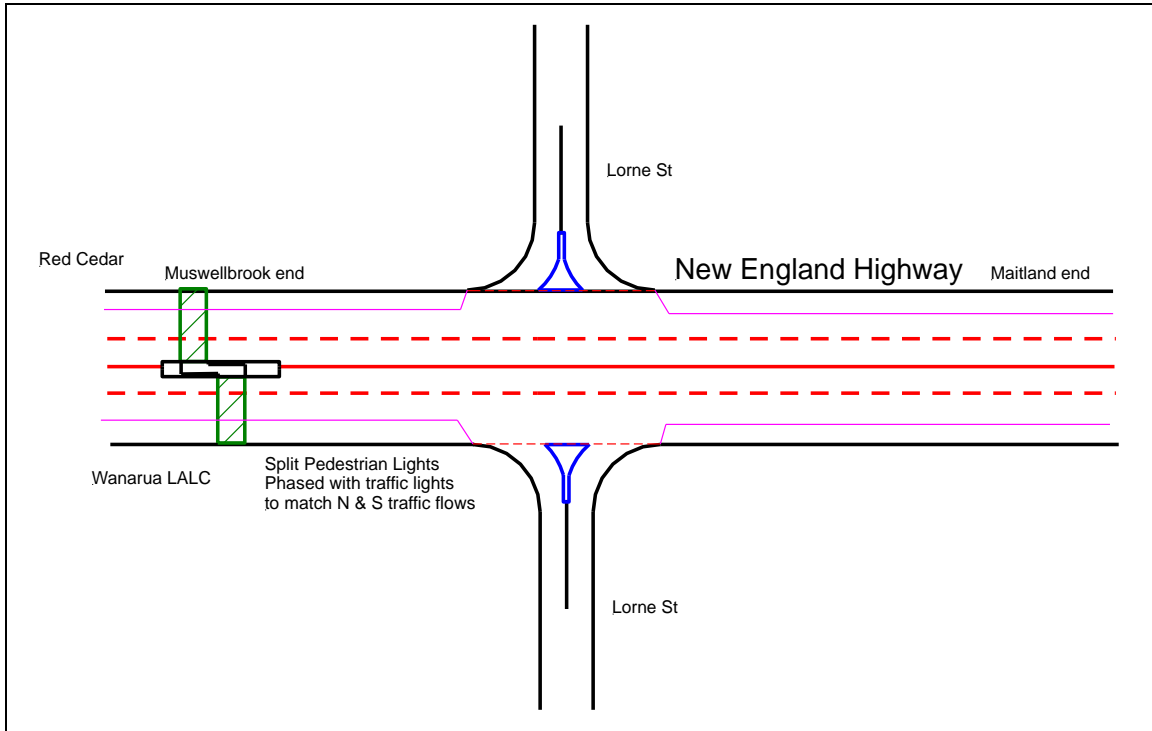
Bell St	p132, Fig 8.9	Traffic Lights alteration	Agreed. Fence median Bell St to Mobil in 40km zone	L	M
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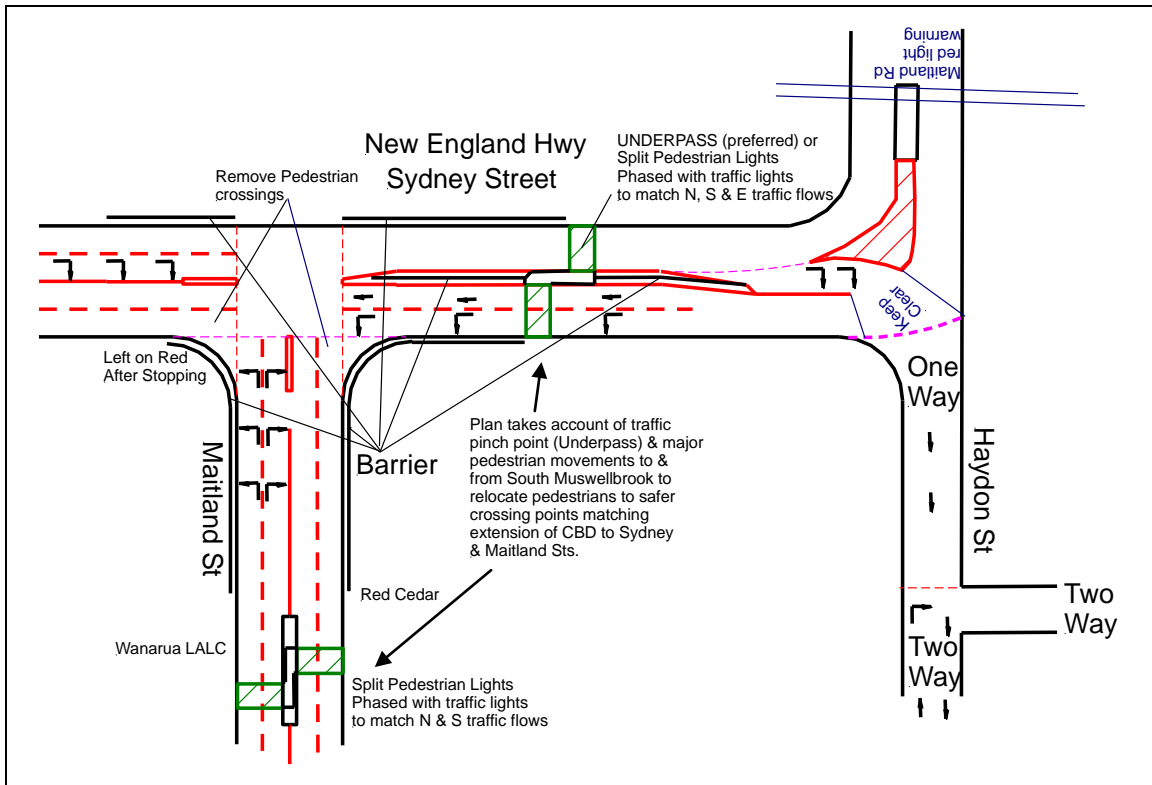
Gyarran St	Na	na	Left in, Left out, fence median Bell St to Mobil	M	L
Wilder St	Na	Na	Left in, Left out, fence median Bell St to Mobil	M	L
Francis St	Na	Na	Left in, Left out, painted median	M	L



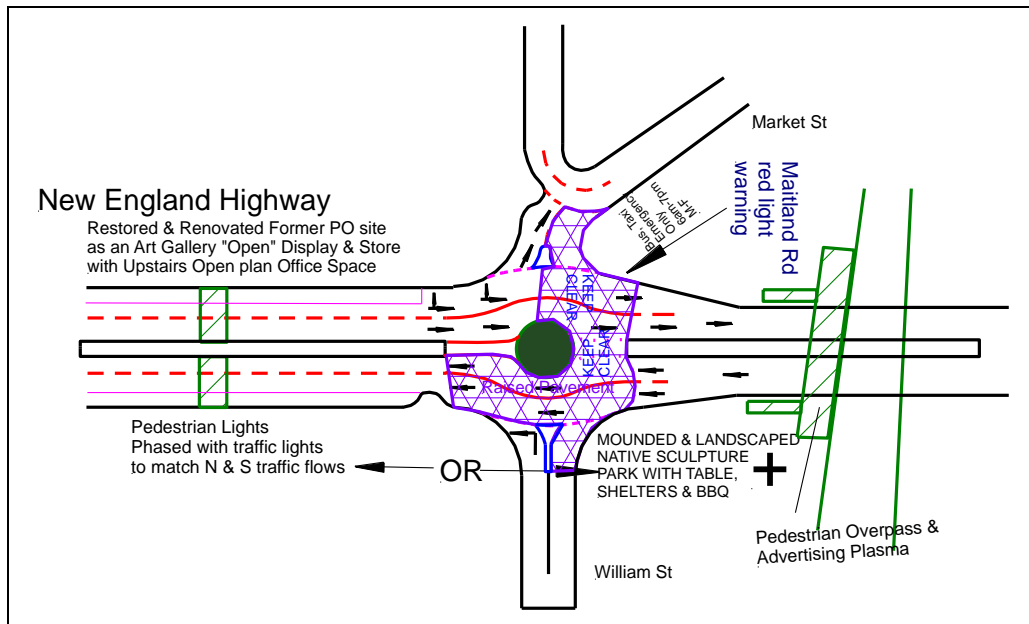
Lorne St, Haydon St	p131, Fig 8.8	Left in, Left out, median	Pedestrian traffic lights North of Lorne	H	M
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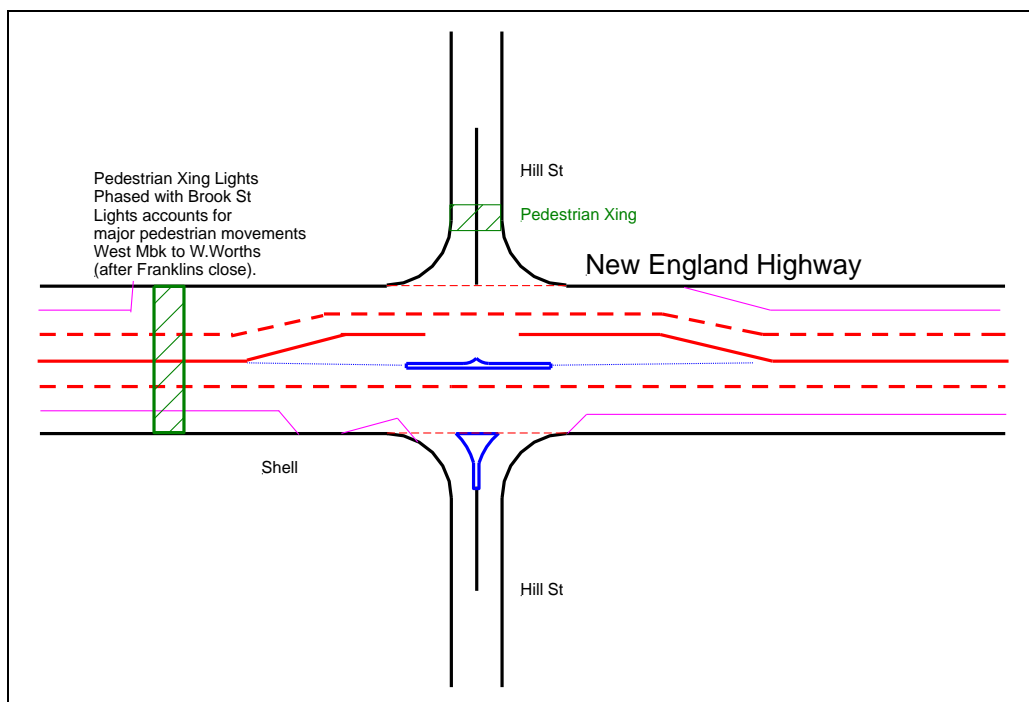
Sydney St, Maitland Rd	p130, Fig 8.7	Traffic Lights alteration	Agreed. Remove Maitland Rd pedestrian crossing & add barrier both sides	H	M
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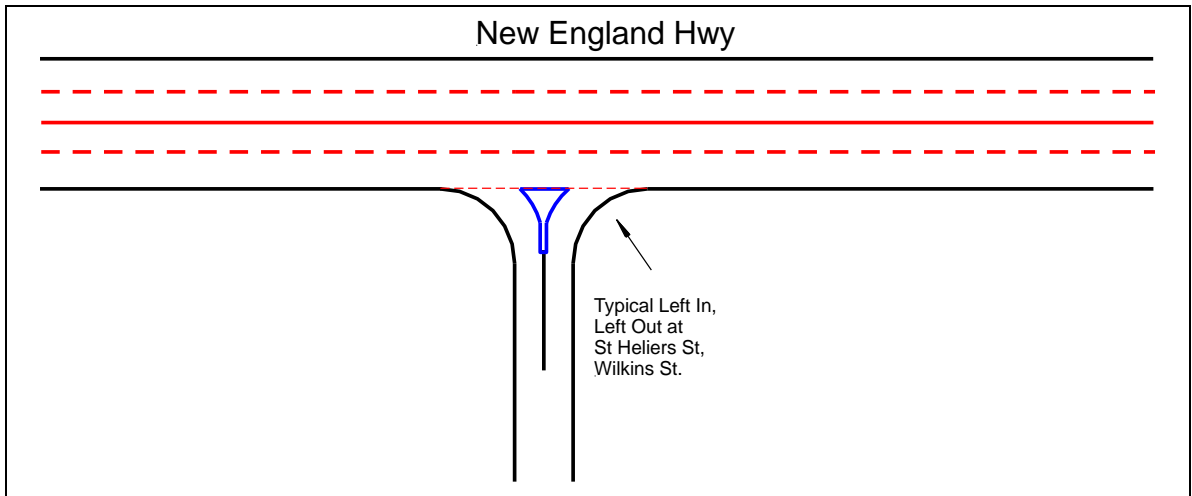
William St	p133, Fig 8.10	3 leg & pedestrian	Left in, Left out William both sides, nil roundabout	H	H
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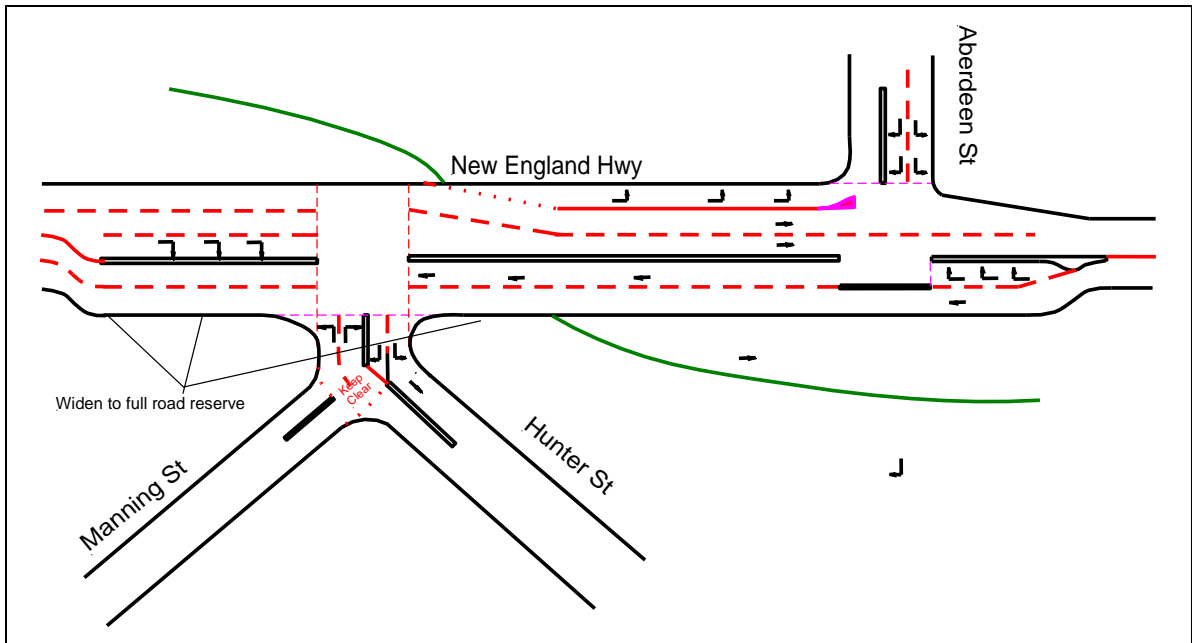
Brook St	p134, Fig 8.11	Traffic Lights alteration, retain off peak parking both sides	Agreed, modify lights to dual right & left turning on all & X-pedestrian phasing. Allow left on Red after stop	L	M
Hill St	Na	Na	Left in, Left out Hill St west end, move Bridge St lanes to eastern side (to remove rear-end collision danger at Shell)	H	L



St Heliers St	Na	Na	Left in, Left out, median (eliminate as collector)	L	L
Wilkins St	Na	Na	Left in, Left out, median	L	L

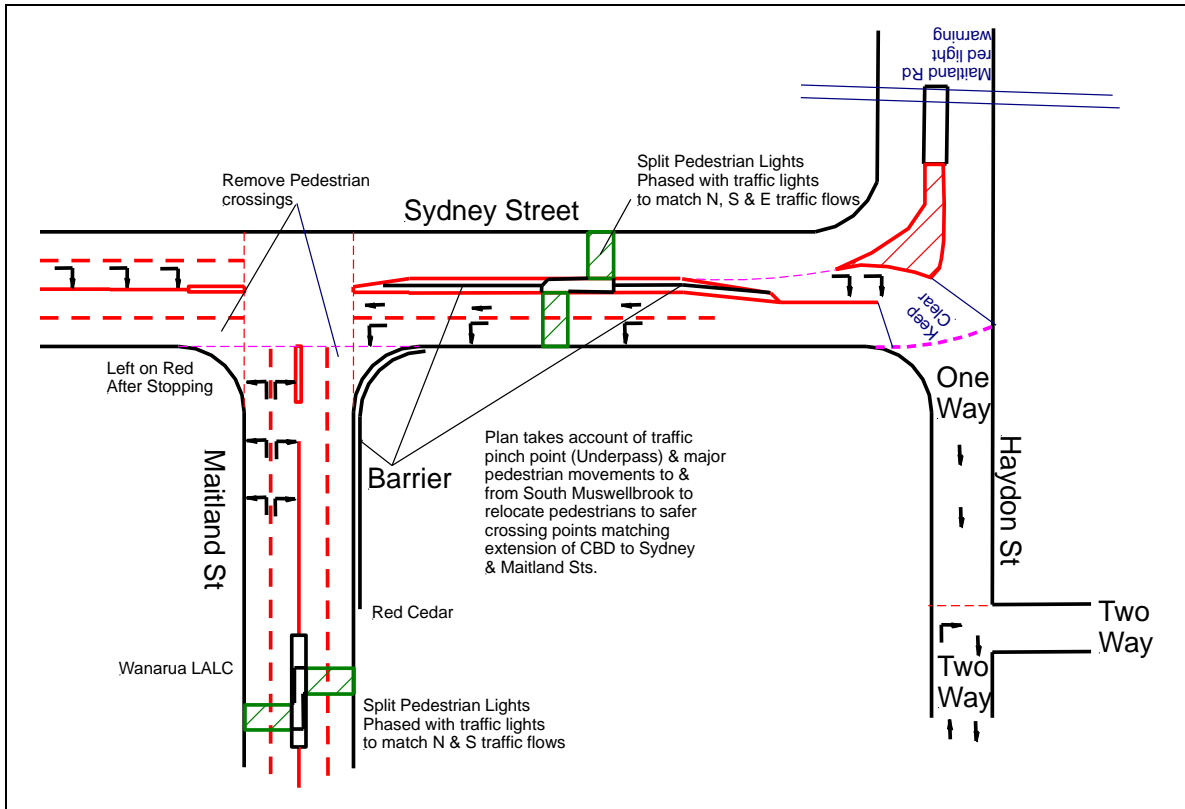


Hunter St	p135, Fig 8.12	Seagull	Traffic Lights (accepts St Heliers collector function)	H	H
Aberdeen St	Na	Na	Seagull, extend 50km zone on highway to 'Collins'	L	L

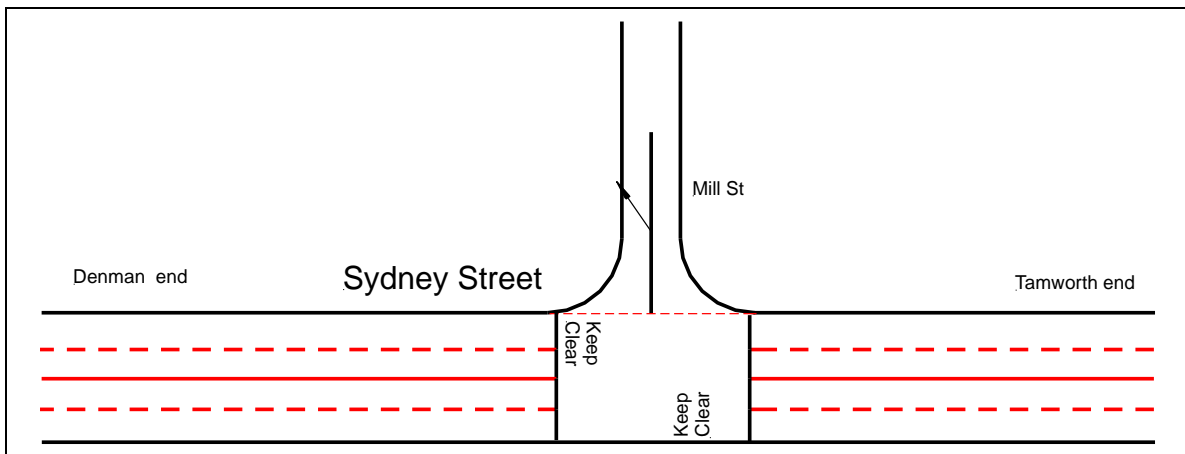


## Sydney Street Intersections

Intersection	Page/Fig	Study Recommendation	Suggestion	Priority (H,M,L)	Cost (H,M,L)
Haydon St	Na	Na	One Way Haydon Nth end. Right seagull to Haydon from Sydney dir east	M	L

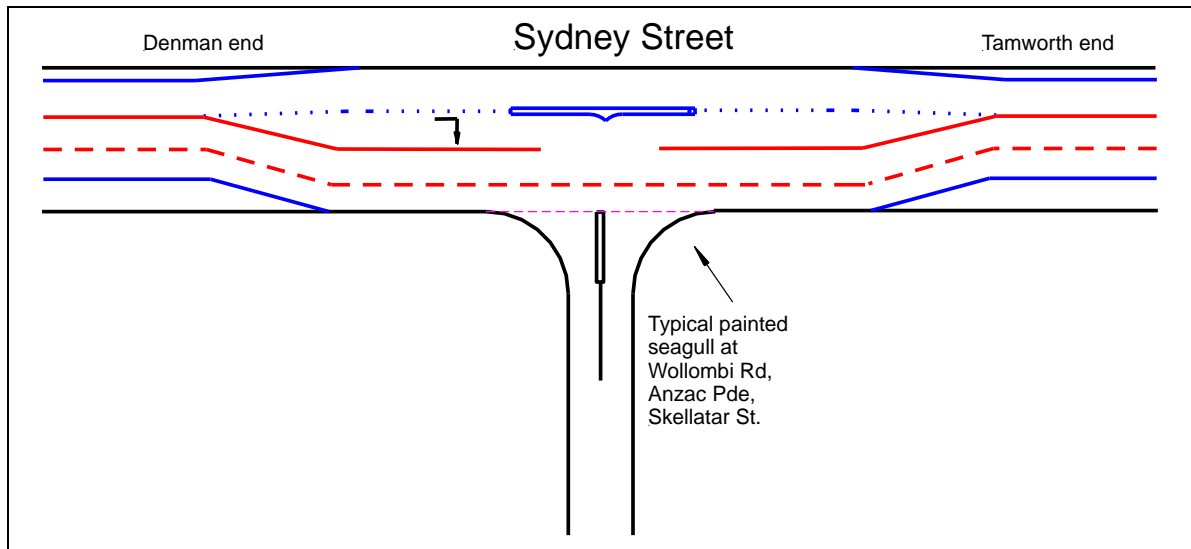


Buddens La	Na	Na	Left in, Left out, painted median	L	L
Mill St	Na	Na	L & R from Mill, R into Mill, Break in painted median Keep Clear on Sydney east	L	L

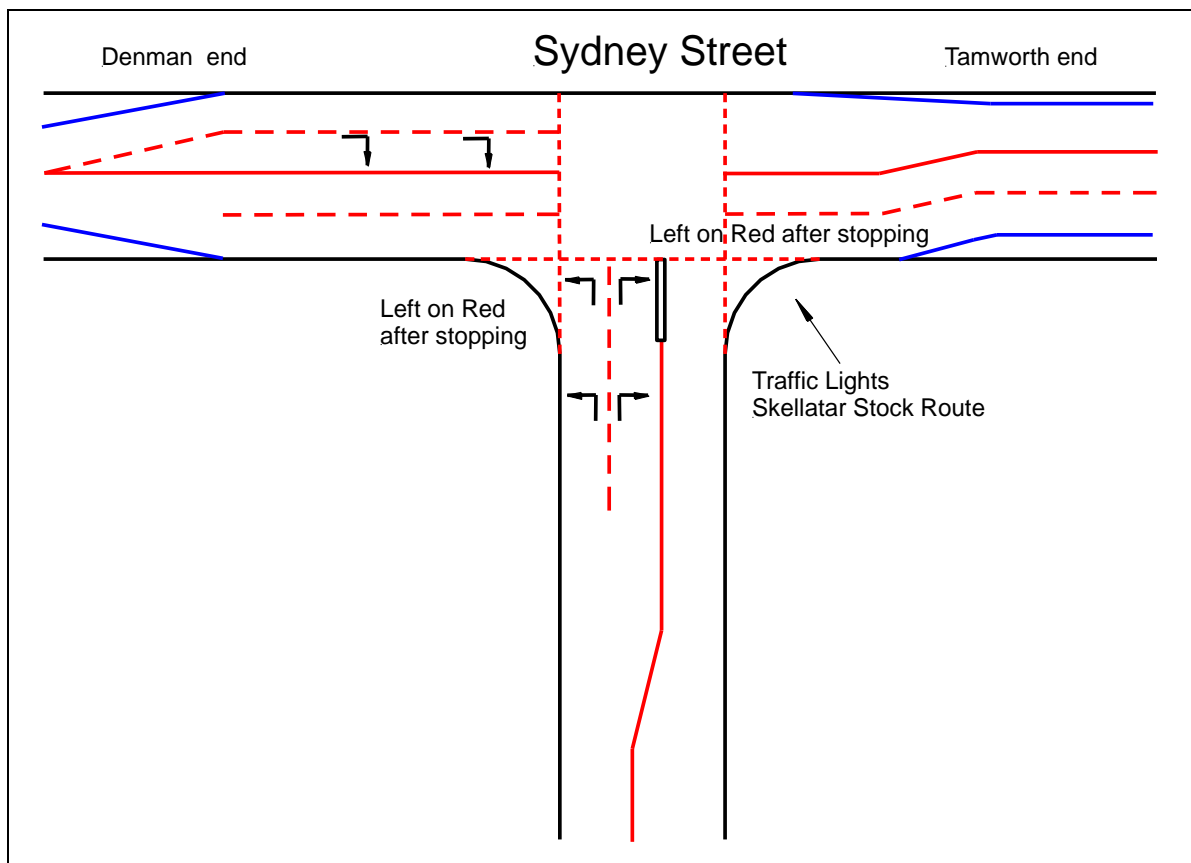




Wollombi Rd	Na	Na	Painted Seagull	M	L
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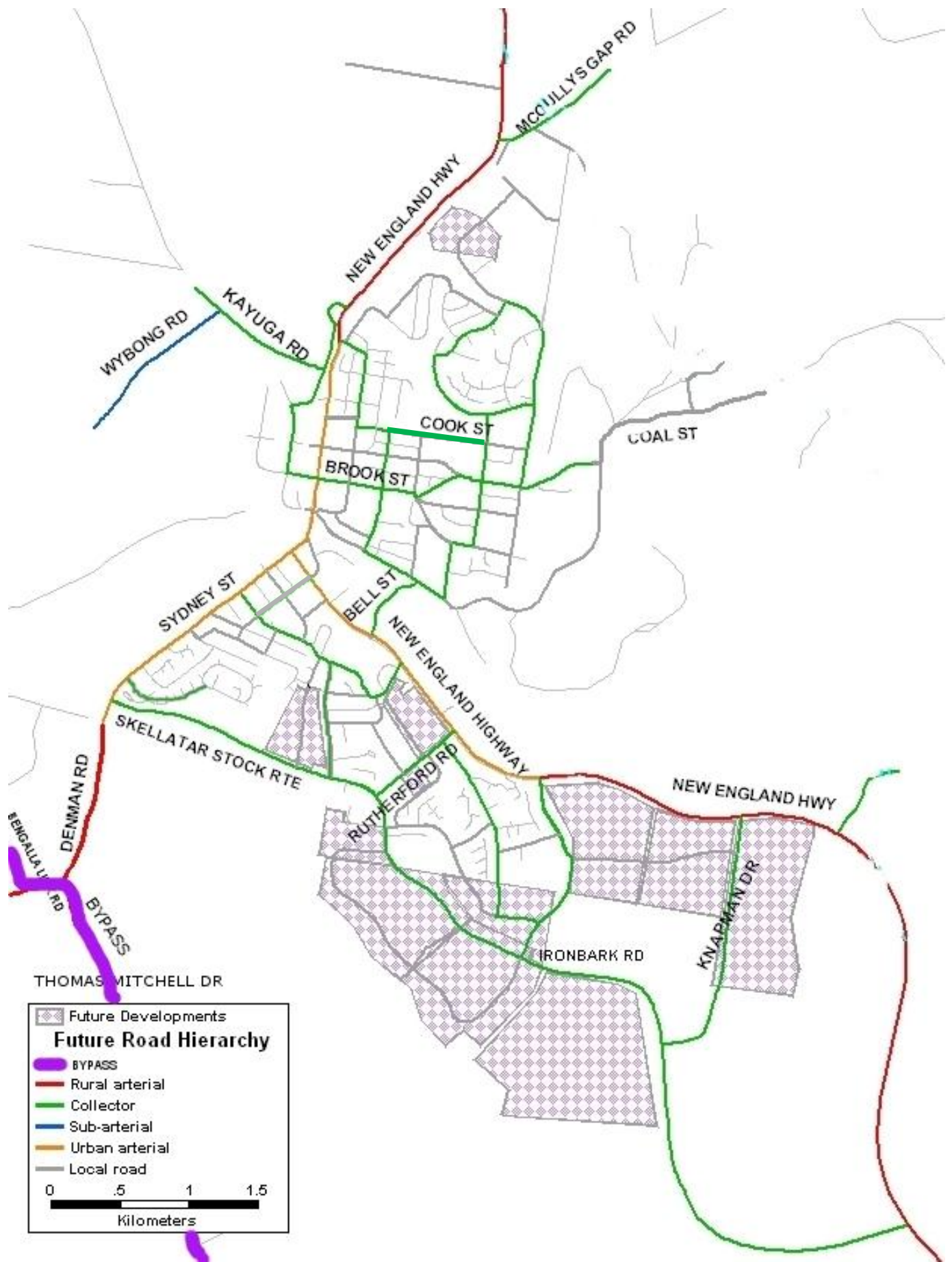


Skellatar Stock Route	p129, Fig 8.6	Seagull	Traffic Lights (noting residential & major mine developments & collector)	M	H
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


## Intra-town Route Intersections

Intersection	Page/Fig	Study Recommendation	Suggestion	Priority (H,M,L)	Cost (H,M,L)
Rutherford Rd, Acacia Dr	p125, Fig 8.2	Options 1-3	Option 1 – Seagull	H	M
Rutherford Rd, Ironbark Rd	p126, Fig 8.3	Roundabout	Agreed	M	M
Adams St, Ironbark Rd	Na	Na	Roundabout	L	M
Adams St, Thompson St	Xii	Na	Roundabout	L	M
Adams St, Skellatar St (Ruth White)	Na	Na	Existing	L	L
Bell St, Victoria St	Na	na	Painted roundabout, give way on all approaches	L	L
Victoria St, Dolahenty St	Na	Na	Left in, Left out, Dolahenty, median	M	M
Victoria St, Glendinning St	Na	Na	Roundabout	L	M
Glendinning St, King St	Na	Na	Roundabout (Cosmetic)	L	M
Brecht St, Brentwood St		Stop at Brentwood	Roundabout	M	M
Carl St, Brook St	Na	Na	Roundabout	M	H

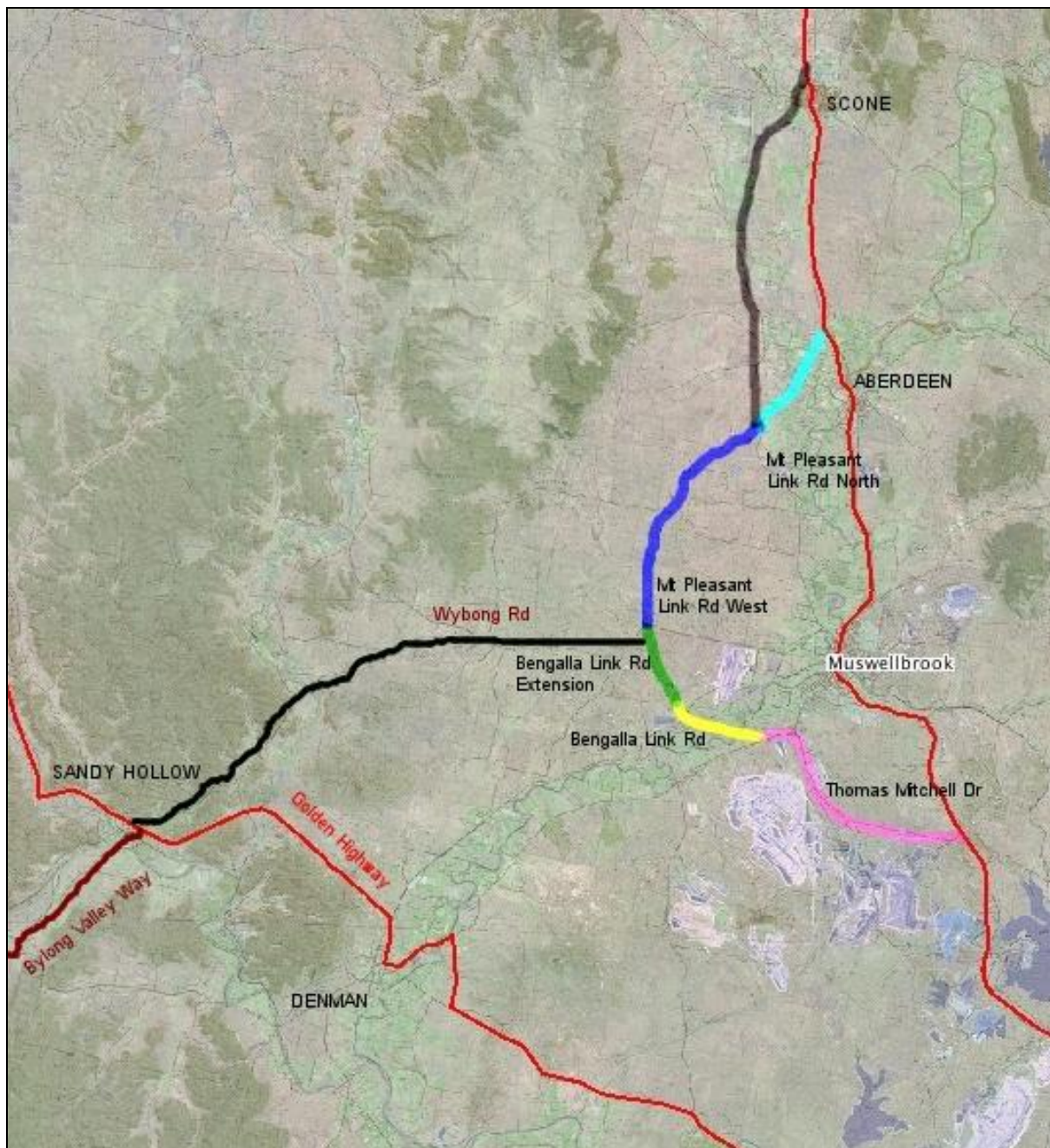


**Future Road Hierarchy**

-  Future Developments
-  BYPASS
-  Rural arterial
-  Collector
-  Sub-arterial
-  Urban arterial
-  Local road

0    .5    1    1.5  
 Kilometers

## A Shire Traffic Need: Economic Route for Upper Hunter and Heavy Vehicle Bypass



### Muswellbrook Bypass

It is an important and significant note and a major criticism of the previously selected Eastern Route of the proposed Muswellbrook Bypass that *'traffic reduction with the Bypass was significant (Sect 7.3.3) **ONLY** along the New England Highway. Other roads, such as Sydney Street and Denman Road showed little or no change due to the proposed Bypass. The traffic model (Sect 7.3.4) indicated the proposed Bypass would reduce traffic on the New England Highway by 17% to 24%, but it is unlikely to eliminate turning traffic delays at local street intersections. This is forecast to remain an issue, particularly at Bimbadeen Drive, Rutherford Road, Thompson Street and Hunter Street intersections, where local traffic growth will reduce intersection performance even if the [Eastern] Bypass were built.'*

### Conclusion: Economic Route for Upper Hunter and Heavy Vehicle Bypass

The Eastern bypass route does not appear to represent a socially or economically feasible route for bypass for the Muswellbrook Urban Area or the Upper Hunter under any circumstance and pursuit of the Eastern Bypass route should be curtailed in favour of a Western Bypass.

- Currently the Bengalla Link Road, Mt Pleasant West Link Road and Mt Pleasant North Link Road are planned to effectively follow the suggested Bypass alignment and will in any case be constructed as mine access roads appropriate for high, heavy and wide loads.
- If the route is determined in the Mt Pleasant mine planning phase the route may be substantially funded & constructed by mining interests supplemented by Federal and State funds diverted from the ineffective Muswellbrook East Bypass and obviated Golden Highway works (below).
- The western route avoids multiple interchanges (3) on the Muswellbrook (East) Bypass Route, replacement of 2 existing Highway bridges with bypass of Aberdeen and an upgrade of the steep Golden Highway grades at Ogilvies Hill and Arrowfield for heavy vehicles.
- The western route alleviates Heavy Vehicle through Traffic originating external to the Shire on both E-W (Sydney St) and N-S (New England Highway) routes through Muswellbrook.
- The western route is Flood Free on a Greenfield alignment.
- The western route creates an Upper Hunter Bypass complementing an F3 to Branxton extension with minimal works required to extend the New England Highway to dual carriageway between Muswellbrook & Singleton.
- The western route provides for a future Heavy Vehicle bypass of Scone rail crossings.
- The western route assists restoration of economic advantage to the New England Highway, over the Pacific Highway, for heavy haulage from Sydney & Central West NSW to Brisbane.
- The western route provides 'direct' connection of the New England Highway to the Bylong Valley Way (Heavy Vehicle Sydney Bypass) providing Brisbane & Newcastle connection
- The travel time differential between the western and eastern routes is negligible due to superior grades and separation heavy vehicles from urban and intra-urban traffic.
- The western route eliminates highway black spots between Antienne and Halcombe Hill.
- The western route provides for enhanced tourist and economic development of the western regions of the Shire
- Consideration of the Western Bypass Route together with the Muswellbrook Urban Area Traffic Study re-integrates the Shires traffic and road needs planning, maintains Councils perspective and avoids the potential for neglect and conflict between Shire and Muswellbrook town needs.

### Recommendation to Council regarding Muswellbrook Traffic Study & Roadworks Plan

Wybong Action Group recommends "That the Muswellbrook Traffic Study & Roadworks Plan only be considered by Council in conjunction with the results of updated studies of all other identified, foreseeable Shire Traffic and Road needs and all submissions made, and that the Roadworks Plan that is adopted be publicly advertised for final comment prior to implementation".

Attached for information:

"An external ring-road around Sydney using existing roads ", Athol Mullen BE MIE Aust CP Eng M.SAE.A MIAME, 2007



John Shewan

(President, Wybong Action Group)

# An external ring-road around Sydney using existing roads

Revision 1.3 – November 2007

Revision History:  
Revision 1.0 - June 2006  
Revision 1.1 – February 2007  
Revision 1.2 – April 2007

The latest available version of this document can be found at:  
[http://cust.idl.com.au/athol/download/External\\_Sydney\\_Ring\\_Road.pdf](http://cust.idl.com.au/athol/download/External_Sydney_Ring_Road.pdf)

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Disclaimer: The author is not a traffic planner or a road design or construction engineer.  
The proposal outlined is only of a broad conceptual nature.  
Detailed analysis by suitably qualified persons would be required to assess the viability of this proposal.

## Overview

This proposal is based upon the premise that there is a need for an external ring road entirely bypassing the Sydney region. Such a road should ideally be suitable for B-doubles and 4.6m high vehicles, particularly in view of the finding that the proposal to upgrade Bell's Line of Road to B-double standard is not economically feasible.<sup>[1]</sup>

Contained herein is a proposal to upgrade a series of existing roads and designate them as a *State Highway* or *National Highway*.

The proposed route would improve connections within the existing regional road network, improving links between the regions and highways along or near the route:

- ◆ Hunter & New England - Golden & New England Highways.
- ◆ Central West - Castlereagh & Great Western, Mitchell & Mid Western Highways.
- ◆ Southern Tablelands - Hume & Federal Highways.
- ◆ Southern Highlands - Hume & Illawarra Highways.

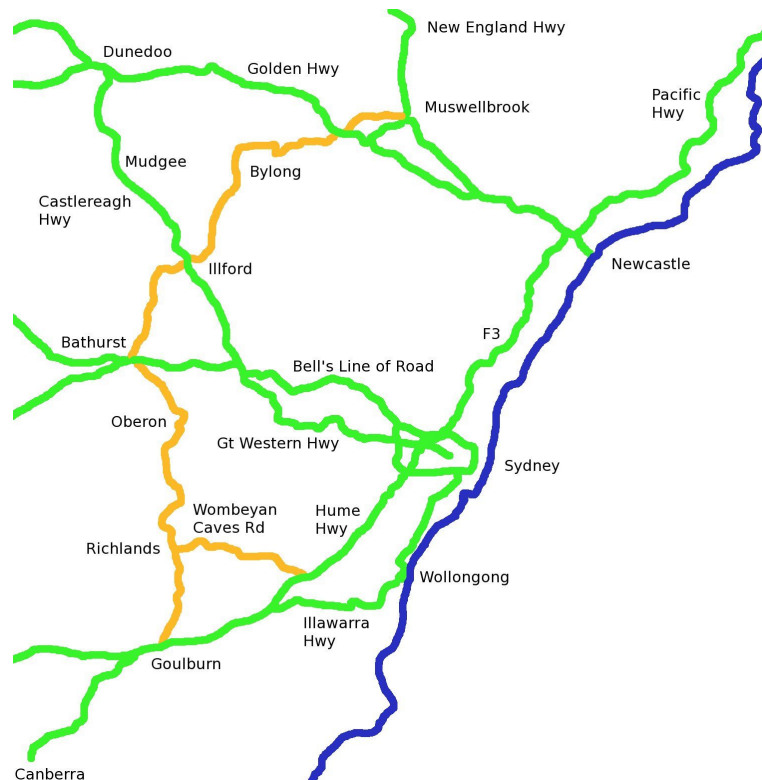
The road would join the *National Highways* north and south of Sydney, providing an alternate route of similar distance to the existing route through Sydney. This could potentially make the proposal eligible for federal funding.

## Benefits

The proposed highway would provide a range of benefits to local communities along the route as well as the wider community, including:

- ◆ Improved road safety.
- ◆ Improved amenity, particularly in areas currently with unsealed roads.
- ◆ Boosting regional economies by opening new and viable freight routes between regional areas.
- ◆ Improved access to the Port of Newcastle and Port Kembla from the central west of the state.
- ◆ Significant improvements to connections of B-double and 4.6m high vehicle routes.
- ◆ A minor reduction in traffic volumes on roads through and around the Sydney region, potentially delaying the need for road upgrades.
- ◆ Reduced vehicle operating costs, particularly for freight operators.
- ◆ Increased tourism opportunities in regional areas, including improved access to existing tourist areas.
- ◆ Creation of a complete north-south bypass of the Sydney region that is of comparable distance to the route through Sydney.

## The Route



◆ **Connection to New England Highway:**

The route should ideally connect to the New England Highway (SH 9) north of Muswellbrook. In view of the proposed route of the Muswellbrook Bypass,<sup>[2]</sup> the local road known generally as *Wybong Road* from the north of Muswellbrook to the Golden Highway (MR 27) immediately west of the end of the Bylong Valley Way (MR 208) would be used.

This link is desirable but is not essential until the Muswellbrook Bypass is constructed, as the Golden Highway and Denman Road (MR 209) form an existing route to the New England Highway in Muswellbrook.

◆ **Golden Highway to Castlereagh Highway:**

The Bylong Valley Way (part MR208, MR215) would be used to for this section of the route. That road commences at its eastern end at a T-intersection on the Golden Highway (MR 27) and runs generally west from that point, being designated MR 208. At a T-intersection north of the village of Bylong, MR 208 branches off to the west as the leg of the T intersection as the road curves south. The road from that point is designated MR 215 and runs generally south, ending at a T-intersection on the Castlereagh Highway (SH 18) approximately 2km north of Ilford.

◆ **Section of Castlereagh Highway:**

The route would use approximately 2km of the Castlereagh Highway (SH 18) from the end of the Bylong Valley Way south to Ilford.

◆ **Castlereagh Highway to Great Western Highway:**

The Bathurst – Ilford Road (MR 54) would be used from its T-intersection with the Castlereagh Highway (SH 18) on the northern side of Ilford to its T-intersection on the Great Western Highway (SH 5) at Kelso, on the eastern side of Bathurst.

◆ **Section of Great Western Highway:**

The route would use approximately 1.5km of the Great Western Highway in Kelso, from the Bathurst – Ilford Road east to O'Connell Road (MR 253).

◆ **Great Western Highway to Oberon:**

The route would use O'Connell Road (MR 253) from Kelso to Oberon.

◆ **Oberon to Richlands:**

The route would use the Oberon – Goulburn Road (MR 256) from Oberon to the intersection of that road and the Wombeyan Caves Road (MR 258) at Richlands. The route would fork at that intersection.

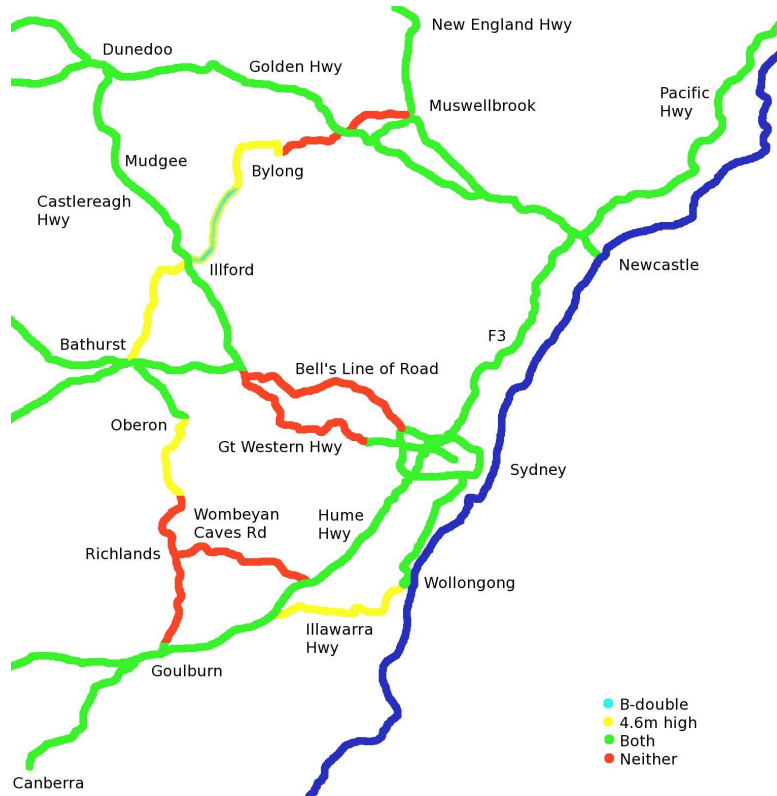
◆ **Richlands to Hume Highway near Goulburn:**

The route would use the Oberon – Goulburn Road (MR 256) to Goulburn, then the old Hume Highway (MR 676) to the Hume Highway (SH 2).

◆ **Richlands to Hume highway near Mittagong:**

The route would use the Wombeyan Caves Road (MR 258) from its western end at Richlands to its eastern end at the Old Hume Highway (MR 260) or Greenhills Road, then use the Old Hume Highway or Greenhills Road to connect to the Hume Highway (SH 2) west of Mittagong. It would be necessary to determine an appropriate route to the Illawarra Highway.

## **B-Double and 4.6m high status of route**<sup>[3,4]</sup>



### ◆ Connection to New England Highway:

Not approved for B-double or 4.6m high vehicles. No significant height limiting issues were noted but the route is generally narrow and would probably require some realignment as well as widening.

### ◆ Golden Highway, Denman Rd and New England Highway:

The Golden Highway (MR 27) is a designated B-double and 4.6m high vehicle route over its entire length from the New England Highway south of Singleton to Dubbo.

Denman Road (MR 209) is a designated B-double and 4.6m high vehicle route connecting the Golden Highway to the New England Highway in Muswellbrook.

The New England Highway (SH 9) is a designated B-double and 4.6m high vehicle route and connects to the existing B-double and 4.6m high vehicle route network in the Hunter and New England regions.

### ◆ Bylong Valley Way:

The section in Muswellbrook shire is not approved for B-double or 4.6m high vehicles. The steel framed bridge crossing the Goulburn River close to the intersection with the Golden Highway is marked as having a 4.9m height limit. No other potential height limiting obstructions aside from trees and powerlines were noted on the section.

The section of Bylong Valley Way from the southern side of Rylstone to the Castlereagh highway is an existing restricted B-double route, applying a special speed limit of 80km/h for trucks and not permitting B-doubles to operate during school zone times due to potential conflict with school buses. Upgrading the route to suit through traffic of B-doubles could eliminate the need for these restrictions and add route flexibility for existing local B-double operators.

All classified and local roads in Rylstone Shire are designated as 4.6m high vehicle routes. The railway bridge near Cox's Gap does not have a clearance sign but markings at the western abutment appear to indicate a clearance of 5.4m, which is consistent with appearance.

◆ Castlereagh highway:

The Castlereagh highway is a designated B-double route and 4.6m high vehicle route in the relevant section.

◆ Bathurst – Ilford road:

The Bathurst – Ilford road is designated as a 4.6m high vehicle route but not as a B-double route.

◆ Great Western highway:

The Great Western highway is a designated B-double route in the relevant section and is covered by a general 4.6m high vehicle approval for the Bathurst area.

◆ O'Connell Road:

O'Connell road is a designated B-double and 4.6m high vehicle route.

◆ Oberon – Goulburn Road:

The southern end of the road is designated as a B-double route only within suburban Goulburn.

All roads within Oberon Council area are covered by a general 4.6m high vehicle approval.

The status in Upper Lachlan Council area was unknown at the time of this revision.

The section of the road within Goulburn Mulwaree Shire is not covered by a 4.6m high vehicle approval.

◆ Wombeyan Caves Road:

Wombeyan Caves Road is not approved for B-double or 4.6m high vehicles.

### **State of the Route**

The route would require survey and study to assess the details of upgrading necessary. Such a study should be able to estimate anticipated traffic volumes and their effect on the standard of road construction required.

It is noted that some recent maps produced from data supplied by the NSW Department of Lands show some sections of the route as unsealed even though those sections have been sealed for several years.

◆ Northern link to New England highway:

When reviewed on 21/2/2007, this section was found to be fully sealed but somewhat narrow, particularly considering that despite limited signposting, the road already appears to be in use by some tourists as a link between the Golden Highway at Sandy Hollow and New England Highway north of Muswellbrook. There are numerous side roads and driveways with little or no provision for turning without affecting traffic flow.

It is anticipated that the connection to the New England Highway at Muswellbrook would require upgrading and that the bridge across the Hunter River would require bypassing or replacement.

◆ Golden Highway and Denman Road:

No significant work appears to be required. This would be dependent upon future traffic volumes.

◆ Bylong Valley Way:

The Bylong Valley Way required significant work whether upgraded to B-double standard or not. The road is currently the subject of ongoing work.

In the section of the Bylong Valley Way in the Muswellbrook Shire (east of Cox's Gap), the route is fully sealed but is generally narrow and much of it lacks line markings. It is anticipated that an upgrade to carry significant traffic volumes would involve some realignment of curves and widening over most of

this length. There is a single lane, load limited timber bridge across Widden Creek that Muswellbrook Shire Council plan to replace in 2008/09, provided that the NSW government allocates 50% funding as anticipated. The old timber *Kirk's Bridge* across Baerami Creek near Baerami was replaced during 2007, with a concrete structure that is designed with provision for future widening.<sup>[5]</sup> There are a small number of floodways that would require work if the route is to be made *floodproof*.

Cox's Gap is a short steep winding route over a ridge, with the road being at a relatively similar height on each side and national parks on both sides of the road. To eliminate the steep grades and hairpin bends that presently exist, tunneling might be appropriate in this location, particularly as it would reduce the impact of a road upgrade on the national parks. It is noted that the horizontal distance from one side to the other is approximately 2km and that the road is paralleled by an existing tunnel on the ARTC's "Ulan" railway line.

The section of the Bylong Valley Way in the Mid-Western Regional Council area is currently the subject of significant work to complete sealing but would require some further upgrading. When Auslink *Strategic Regional Roads* funding was announced in December 2006 for the completion of sealing, there remained 32km unsealed. Mid-Western Regional Council have indicated that they expect to complete that work by approximately March 2009. By Christmas 2007, it is expected that there will be only approximately 12km remaining unsealed, being in two sections between Bylong and Cox's Gap. While the newly sealed sections should not require any immediate work, some of the existing sealed sections are narrow and rough and would probably require reconstruction rather than merely widening. Mid-Western Regional Council plan to replace the single-lane *Carwell* bridge south of Kandos in 2009/10. Much of the section from Kandos to the Castlereagh Highway has already upgraded to a reasonably high standard.

Bypasses of Rylstone and Kandos may need to be considered if the increased traffic volumes would warrant them.

◆ Castlereagh highway:

No significant work appears to be required. This would be dependent upon future traffic volumes.

◆ Bathurst – Ilford Road:

This road is generally of reasonable standard. Some sections of this road may require widening and some winding sections may require alignment improvements and possibly climbing lanes. Otherwise, upgrading of this section is likely to be of an incremental nature dependent upon the traffic volumes.

◆ Great Western highway:

The section of Great Western Highway used changes from four lanes to two in the affected area. With the existing traffic conditions, the 2-lane section appears to be somewhat marginal and may require improvement, particularly with the potential increased traffic volume of this proposal.

◆ O'Connell Road:

No significant work appears to be required. This would be dependent upon future traffic volumes.

◆ Oberon – Goulburn Road:

As at November 2007, the Oberon – Goulburn Road had one unsealed section 5km long. That section is within Upper Lachlan Shire and that council has obtained a 3-year NSW Government grant for \$710,000 for reconstruction and sealing, which will be combined with \$1,420,000 of council funds to carry out that work between mid 2007 and mid 2010.<sup>[6]</sup>

The sections of the Oberon – Goulburn Road that have been sealed in recent years have been constructed to high standards and are unlikely to require further work. Many of the older sections of road in the Oberon, Upper Lachlan and Goulburn Mulwaree Shires are likely to require widening and resurfacing. The winding section crossing the Abercrombie River is signposted as "unsuitable for caravans" and is likely to require significant work.

The road is relatively steep in some sections, particularly between Goulburn and Richlands. Climbing lanes may be required in some locations.

Due to the extended suburban section within Goulburn, it may be appropriate to consider a new route crossing the Wollondilly River and the railway line to bypass that area and connect to the Old Hume

highway close to the Hume highway, particularly if significant increases in traffic volume are anticipated.

#### ◆ Wombeyan Caves Road:

This road would likely be prohibitively expensive to upgrade to B-double standard.

The Wombeyan Caves Road is sealed for around 2km at its Western end. The unsealed section immediately east of that section appears to be of reasonable width and alignment, but narrows and becomes more winding further east. The road then comes to a sealed section that is very winding, steep and narrow with vastly inadequate guardrails. This leads down to the Wombeyan Caves Reserve.

It may be appropriate to bridge across the ridges above the Wombeyan Caves Reserve or find a completely new route in this area to avoid placing significant volumes of through traffic in the reserve and to bypass the steep winding section of road West of the Reserve.

East of the Wombeyan Caves Reserve, the road would be better described as *a goat track clinging to the edges of cliffs*. The road is unsealed for a significant distance. The section immediately east of the Reserve is mostly barely one lane wide, follows the edges of the cliffs closely and has a significant number of causeways where natural watercourses cross the road. Many of these causeways are concrete and many were not level with the unsealed surface adjacent to them when this section was inspected on 1<sup>st</sup> November 2005. Guardrails are non-existent along this section, with intermittent sections of dilapidated wire fencing and timber posts being the only protection along the roadside. This section is signposted as unsuitable for articulated vehicles and shown on many maps as “not suitable for caravans”. It is anticipated that this section would require a significant investment to bring it up to a reasonable standard, and that such work would necessarily involve significant cuttings, bridges and possibly tunneling.

Further east, the Wombeyan Caves Road continues unsealed but its alignment improves and it becomes somewhat wider. There is a low level bridge and camping area that would almost certainly need to be bypassed as it would not be suitable for through traffic. The road opens up into farmland and includes some sections that are of a width and alignment that would quite likely suit sealing with relatively minor work. The historic single lane tunnel would clearly require bypassing, but is of significant heritage value.

Towards its eastern end, Wombeyan Caves Road is sealed but may require some improvement dependent upon anticipated traffic volumes. It would be essential to provide a full interchange between this route and the Hume Highway. It would be necessary to determine whether it is possible to upgrade the existing half interchange at the Southern end of the Mittagong Bypass or whether a new interchange was required where either the Old Hume Highway or Greenhills Road crosses the Hume Highway.

It would probably be necessary to determine a suitable connection between the route and the Illawarra Highway, with Golden Vale Road through Sutton Forest being likely to be used for this purpose whether signposted or not unless a more suitable route is provided.

#### **Background**

The road network within Sydney (connecting the radial roads to the north, west and south) is structured around providing service to regular users within the city, and is generally considered to be unfriendly, confusing, dangerous &/or difficult by many travelers from outside the Sydney Region. The increasing use of toll roads with exclusively electronic tolling that inconveniences &/or financially penalises occasional users is further exacerbating this issue.

Many of the roads in and around Sydney are at or beyond capacity at peak times. For example, figures from the NSW RTA indicate that the F3 freeway between Wahroonga and Kariong needed to be upgraded to 3 lanes each way to handle peak demand predicted for 2006<sup>[7]</sup>. Widening of the remaining 2-lane carriageway sections to 3 lanes commenced in early 2007.

The major road corridors in and out of Sydney are frequently closed for a number of reasons, including vehicle crashes, bushfire and snow. The most direct land transport routes to the coast north of Sydney, the F3 freeway, the old Pacific Highway and the main Northern Railway line are located close together such that a single bushfire can close all three simultaneously.

In this context, many people simply do not want to use these roads or to travel through Sydney and will travel significantly further to avoid doing so. This is particularly true of retirees, many of whom have

campervans, motorhomes or caravans that they are uncomfortable operating in city traffic conditions. From discussion with numerous such people, it appears common to travel at least as far west as Dunedoo in order to bypass Sydney.

If the proposal to construct a 2<sup>nd</sup> airport for Sydney near Sutton Forest proceeds, this proposal would connect virtually directly to that airport.

All calls for funding to date appear to have been made on the basis of separate and distinct sections of road. No similar integrated approach appears to have previously been proposed.

The proposal would provide a much more direct connection between the Hunter Region and the Central West. In conjunction with the F3 to Branxton link road (which is anticipated to be funded under *Auslink* 2), this route would provide a viable alternative route between Newcastle and Bathurst, having travel times and distances similar to existing routes through Sydney. Significant benefits could be obtained for both the Central West region and Port of Newcastle, particularly if this route is upgraded to B-double and 4.6m high vehicle standards.

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