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Compiled by David Holland: April 2012

Submission to Transport for NSW on Long Term Transport Master Plan for the Central Coast

*What Shape should the future development of
transport on the Central Coast be like?*

REVISION 2

A plan for transport in NSW should aim at short, medium and longer-term strategies to embrace sustainability, security and reliability. A move towards sustainable fuels for the running of Transport. Plan a direction for public transport into the future towards alternative fuels for buses and taxis. Energy for Rail should be switched to renewable energy alternatives. Passengers and drivers should feel secure to use the public transport networks in regional Sydney, and for public transport to continue to compete with the car; it will have to provide a comfortable and reliable service to outlying areas as well as the transport hubs.

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Revision 1

Preface

Much of this document is taken from segments of a range of documents written by David Holland over the last 4 years on transport reform for New South Wales and in particular the Central Coast of New South Wales.

The documents cover a wide scope of transport related subjects from the condition of roads and public transport services to renewable energy planning and sustainably.

To access some of the original documents, go to the references section of this document and follow the links.

Background

The area in and around Lakehaven shopping centre is increasing in population and commercial activity. A new shopping centre similar to the Tuggerah's Super Centre has been completed at Lakehaven in the last few years and a new shopping centre and Tavern with bottle shop has been built at North Lakes 3 kilometres to the north.

New suburbs such as Wadalba, Woongarra and Hamlyn Terrace are filling out with houses.

The recently published Central Coast Regional Strategy 2006, has proposed two new town centres, one at North Warnervale and the other at Wadalda East. The creation of a new station north of the current Warnervale station is also proposed. This plan has always been a proposal since the previous edition of the Central Coast Strategy Plan published in 1975, however, then

as now, little thought seems to have been made on how public transport structures should be organised to accommodate the new populations. A complete rail infrastructure should be part of a bigger picture. The bigger picture would answer the question how the sub-region of North Wyong is going to accommodate population growth and provide a comprehensive public transport structure.

The strategy forecasts that by 2031, 16,000 green fields housing sites will be built within Wyong Shire, most will be built in the green field development sites in North Wyong. A further 5000 houses are forecast for Wyong as infill sites, again many of these will be built in North Wyong. In addition, the Central Coast Strategy forecasts a further 14,500 dwellings to be developed as higher density dwelling in the town centres. These centres would include Wyong and The Entrance but also those in North Wyong such as the new proposed centre at Warnervale North, Lakehaven, Wadalba and presumably a newly developed Charmhaven and Northlakes.

This will conservatively mean that some 30,000 dwellings will be constructed some time before the year 2031 in North Wyong that means at an average of 2.3 persons per dwelling nearly 69,000 new residents are expected.

Jobs growth targets in the Central Coast Regional Strategy are high and expect 6000 more jobs in Gosford with a further 9,000 in areas around Gosford. Many of these jobs will be filled with people from the North Wyong area. A further 5,500 jobs are forecast in the Wyong/Tuggerah area before 2031 again many of these jobs will be filled by workers from North Wyong. Lastly, 10,500 new jobs are forecast for North Wyong and an extra 9000 in all town centres in Wyong. This could mean that North Wyong could have as many as 17,000 new jobs, which will require a new and efficient public transport systems to get them to work.

Currently, North Wyong has several new high schools and public schools recently built in the last few years to augment schools such as Kanwal Public School, Wyong Public School and Wyong High School. With a conservative estimate of 69,000 new residents this will mean that at least 20,000 new students will be finding their way to school by 2031.

How are we going to transport all these people to work and to school?

(Ref. Text from Planning Public Transport Structures in North Wyong, [Proposal for BLUE HAVEN Train and Bus Interchange, by David Holland](#))

The Current Public Transport Service North of Tuggerah

The two current railway stations in the Lakehaven locality, Warnervale and Wye are serviced by Busways bus service with their 78 service to Warnervale and their 97 service to Wye station. Both services are only run a handful of times a day, Warnervale no later than 4:30pm and Wye not any later than 7.00 pm by Busways. Other services to Warnervale Station are picked up by Coastal Liner Bus Service, running services from the station till about 8.00pm. Also a peak hour service from Bugdewoi runs to Wye station

week days. A weekday service also runs from Gwandalan to Wye or Morrisett station. However weekend service are infrequent and since the last bus review, services to Mannering park and Gwandalan have reduced in usefulness to these out lying localities due to the last bus now running earlier than previously.

The main bus service that connects all the out-lying towns and suburbs around Lakehaven and Gorakan to a station is the 80 service which runs Lakehaven Drive, Walker Av through Kanwal and Pacific Highway to Wyong Station, the 79 service running through Woongarra and Hamlyn Terrace, Watanobbi to Pacific Highway also to Wyong Station and the 81 service travelling Marks Road, Kay Av, Swan Street, Pollock Av Howarth Street to the Station.

Wyong station is one of the terminating points for many of the Northern line trains that runs through Sydney and north through the north shore. These trains service the Central Coast and provide a local service during peak periods stopping most stations.

However, trains running to Newcastle, north of Wyong station, run less frequently and stop at the two stations closest to Lakehaven and Northlakes, which are Warnervale and Wye stations, providing a much less frequent services to this growing area.

If public transport has any chance of keeping up with these changes in population, we need to do something about making the public transport system more efficient.

In this submission we have put together some recommendations to attempt to improve the bus network system for today while at the same time look to the future and attempt to accommodate the large populations expected in the landscape from Wyong to Gwandalan.

Executive Summary

The NSW Transport long term master plan should consider the following public transport initiatives and freight initiatives for the Central Coast and NSW as a whole:

1. Full complement of railway stations including Blue Haven Station on the Central Coast from Umina to Blue Haven
2. Integration of Charlestown bus route from Lakehaven possibly via the proposed Blue Haven station
3. Lake Munmorah Interchange at new Shopping complex at corner of Tall Timbers Road Lake Munmorah.
4. Central Coast integrated ticketing system between regions 6 and 7
<http://www.transport.nsw.gov.au/sites/default/file/abouttrans/Outer-Metro-Regions-6-7.pdf>

5. Buses need to run later to outlying areas, including Gwandalan, Summerland Point, Mannering Park and Charlestown
6. A new Central Coast north-south express bus route should be considered to encourage commuters to travel by public transport instead of cars.
7. A walking bus program / (Riding Bus Program). This would include a plan for funding better footpaths and cycle-ways for school children.
8. Safety for Drivers and passenger: (many drivers are being assaulted, this includes being spat at recently) Components of the strategy should include:
 - (a) A respect your driver advertising campaign.
 - (b) More police on buses or following buses at night
 - (c) More visible presents of Bus officials and inspectors who can fine the public for breaches of codes of conduct.
9. More low floor buses on service runs.
10. More dedicated school buses.
11. An integrated loop metro system around the Central Coast lakes providing buses that move from one loop to another in bus regions 6 & 7.
12. Inequity of road maintenance funding for councils.
13. Better integration of rail into planning energy systems for the future in NSW. This means switching energy used by rail from coal energy to green energy. It means changing the way we transport freight and applying intermodal freight systems.
14. An integrated planning approach for Planning Transport precinct in Wyong township.
15. Bus Stop Access for older Commuters and Maintenance
16. Change transport habits by an Advertising Campaign for buses Services in North Wyong, combining locality time-tables
17. A Proposal to Encourage further use of Public Transport
18. Dynamic Signage showing train and bus arrivals at stations
19. Customer comfort and Maintenance
20. Issues unaddressed by the 2009 Bus review Process.
21. Public and private transport planning into the future.
22. Sustainable resources planning for transport

Introduction

Public transport on the Central Coast should have three main characteristics.

Public transport should be:

1. Sustainable
2. Secure
3. Reliable

1. A sustainable plan for transport in NSW

Transport planning should aim at short, medium and longer-term strategies to embrace sustainability. Sustainability covers three aspects:

- (a) A move towards sustainable fuels for the running of Transport. The NSW government should be involved in working with other states and the commonwealth on research on viable motive energy sources for automotive applications. This should be manifested in a strategic move away from the use of fossil fuels for private transport and freight transport.
(see: [Commentary on Australia's future for renewable energy p. 12-15](#))
- (b) The direction for planning public transport into the future should be towards alternative fuels for buses and taxis. Energy for Rail transport, already electrified, should be switched to renewable energy alternatives.
(see [The Renewable Energy Report Card Don't sell Australia Short, 2010](#)) (see [Commentary on Australia's future for renewable energy p. 15-16,40](#))
- (c) The Public Transport network in the Sydney region should be sustainable in the sense of able to be resilient. This resilience should include the proper planning for the types of passengers likely to use the services. This includes the elderly, disables, those with young children, young school goers and passengers that have cars but choose to use public transport.

2. The transport system should be secure

Passengers should feel secure to use the public transport networks in regional Sydney. Additional transit police, police and bus company officials should be visible on services. Late night services should be targeted as they are high-risk services for anti social behaviour. Drivers or buses and taxis have often been at risk of assault. With additional security resources, it is hoped that the risk of these assaults will be minimised.

3. Reliability in the public transport network is important.

The Central Coast Regional Strategy document indicated that the northern region of the Central Coast is expected to have a large growth rate to the year 2031.

With this growth we will see a large amount of intra regional travel for commuters to employment and to education institutions. Over this time we are expecting to see a greater shift towards public transport use due to more congestion on the roads and higher fuel prices.

This will mean that the sub regional transport systems will need to be efficient and on time.

To continue to compete with the car, public transport will have to provide a comfortable and reliable service to outlying areas as well as the transport hubs like Wyong, Tuggerah, Lakehaven and the new town centre at Warnervale.

To achieve this some significant and specific changes will have to be made to the way we do business on the Central Coast in providing public transport services to the public.

The detail to achieve this would be:

1. Fully developed rail system on the Central Coast.

This would entail the development of several new station locations and an upgrade of a number of existing stations.

As part of the commuter rail system upgrade a full complement of stations should be considered to ensure an efficient spine for the public transport catchment on the Central Coast. This would better promote public transport intraregional commuting and potentially remove many cars off the roads.

The current stations were put in place many years ago servicing a much smaller population emergent in the southern parts of the Central Coast. However, a full complement of railway stations would better service the now growing population on the Coast. This would include a fully functional eight-car railway station at the current location of Warnervale station as put forward by the developer and entrepreneur David Hannan. This would give a greater appeal for potential residents to buy green fields properties in the region.

The new proposed station about 1.5 kilometers to the north to be called Warnervale township station. This would be the hub of a new town development to supply transport links and services to a large area now undeveloped.

A new railway station south of the current Woy Woy station to service the much expanded locality of Unima and Umina South.

Finally, a railway station close to existing housing which would be situated about 2 kilometers further north again from the proposal at Warnervale township. This station would be Blue Haven Station, which is only 200 meters from the western end of Blue Haven. This station would potentially have a range of facilities, including a Bus interchange and rail yards for the northern part of the Central Coast.

The rail-bus interchange would service a commuter catchment from Norah Head, Budgewoi, Mannering Park and along the southern and eastern shore of Lake Macquarie servicing places like Chain Valley Bay, Summerland Point, Gwandalan and Swansea and complemented with the right bus services in place it could service populations as far as Charlestown.

To see a detailed proposal for the Blue Haven station, rail bus interchange and rail yards for the northern end of the Central Coast click the link:

[<Blue Haven Station Proposal>](#)

2. Integration of Central Coast to Charlestown bus route link from Lakehaven possibly via the proposed Blue Haven station.

The initiative is to provide additional services to Charlestown from Lakehaven. Currently one service to Charlestown and one from Charlestown is run in the morning and one with a similar configuration runs in the evening, both only during week days. The proposal is to extend these service to two more services both to and from Charlestown to accommodate commuters and shoppers to the region of Newcastle and from the Central Coast.

The proposal would also seek to provide four new services both to and from Charlestown on Saturday and Sunday. Again these services would be designed to accommodate both commuters and shoppers.

Charlestown is one of the hubs of the Newcastle bus services. Bus radiate out to most destinations reachable by bus enabling travellers on the new Lakehaven Charlestown service to gain access to all these destinations with only one transfer, which is at Charlestown Shopping Center a short walk from the destination stop of the proposed service.

More information can be gleaned from the revised version of "[A proposal for a Blue Haven Rail and Bus interchange Appendix E](#)"

3. A new bus interchange at the new shopping complex at corner of Tall Timbers Road Lake Munmorah.

A new Woolworths store and attached specialty shops complex has been planned for the corner of The Pacific Highway and Tall Timbers Road Lake Munmorah.

Suggestions have been presented to Transport for NSW to include a bus interchange at this shopping center. The most viable location for the interchange would have been on the eastern side of Tall Timbers Road about 100 meters from the corner of Tall Timbers Road and the Pacific Highway.

With an interchange at that location, bus services such as the 95 service from Gwandalan, Lake Munmorah, Mannering park and Morrisett station can service the shopping center as well as become a transfer point for the Lake Macquarie Bay towns and Lake Munmorah itself.

Other services that would be servicing this shopping center would be the new direct from Lakehaven 99 service to Charlestown (Ref. [A proposal for a Blue Haven Rail and Bus interchange Appendix E](#)) and a newly configured 98 service from Lakehaven via Blue Haven and San Remo continuing to Chainvalley Bay.

4. Integrated Ticketing between services

Currently bus passengers who pay full fare and have not purchased a My Multi 3 cannot transfer between the two Busways companies on the Central Coast or from either of the Busways services to the Redbus services. With the advent of the universal and cheaper system of My Multi ticketing, inequities in the ticketing have continued. The system must become more equitable for travellers who have not purchased these tickets or Pensioner Excursion Tickets (P.E.T.).

Currently on the Central Coast, My multi tickets are seemingly not used predominantly during the day. Train commuters use them when combining a longer train trip from Sydney. Some bus commuter use the My bus ticketing for bus trips, but to include train and bus commuting only on the Central Coast can be comparatively costly. Several points need to be addressed:

1. Transfer tickets must be available between the different bus carriers under the State government contracts in Region 6 & 7.
2. My Multi 1 tickets can be used on Buses only on the Central Coast. Most people either do not know you can use these tickets or find it uneconomical to use them. A My Multi 1, 2 or 3 allows passengers to transfer anywhere on the bus network, but only the most expensive of these allow train travel as well. This is inequitable and is a negative towards a better transport future for the Central Coast. A My Multi 4 should be introduced allowing universal public transport access on the Central Coast, including access to private ferry services from Woy Woy Wharf.
3. Greater availability of these tickets should be available. Most passengers start from home on a particular day and at least their first journey as to be paid in cash to a bus driver.
4. Many passengers use the bus for trips to the shops. Young people are a particular user on public transport before they get a license to drive. To help retain some of these as passengers on the bus, reduced cost ticketing similar to a My Multi 4, concession day pass should be available for these passengers at a cost less than two concession fares of 6+ sections. The ticket should be available from bus drivers and be an integral part of new ticket machines being rolled out during this year of 2012.

5. A similar My Multi 4 Day pass should be available to full fare passengers, being just less than the cost of two 6+ section fares.
6. Conceptually, a My Multi 4 ticket should be able to service all regional localities of Greater Sydney, including the Central Coast, Wollongong, The Blue Mountains and the Cambelltown, Minto and Narellan Areas. It would be an “Outer metropolitan My Multi Ticket”. It should have several valid time periods available to it. These should include: 1 Day, 7 days, 1 Month, 6 months and 12 Months. The ticket will help entice local travel within the region as the regions become more able to support their own workers with work.

5. Travelling by bus late into the night.

Currently, bus services on the Central Coast are sparse after about 7:30pm. Many service do not go to outlying areas even after considerable improvements were made after the [Central Coast Bus review of 2009-10](#).

This is particularly the case on Sundays and Public Holidays where buses from Lakehaven cease at around 8:30pm. This situation means that customers are not able to use the bus service in the morning and be guaranteed a service will take them home in the evening.

- (a) Buses need to run later to outlying areas
These outlying areas include, Gwandalan, Summerland Point, Mannering Park and Charlestown.

One suggestion to remedy this situation is to time table the bus and have a bus on standby ready to make services available if a passenger needs the service to one of these outlying localities. In other words a supply on demand service. The bus only travels if a passenger requires a ride to one of the destinations the bus can go to on that route.
- (b) Time Table bus services to later in the night. Returning buses to these outlying areas should be as late as 10:30pm at least.
- (c) All bus routes need to be available to run later on Sunday nights.

6. A North-South Metro bus route should be considered to encourage commuters to travel by public transport instead of cars.

The route should be express or rapid bus service between most major interchanges. Starting at Erina Fair bus interchange, this bus would travel to Gosford rail bus interchange at Gosford Station, Tuggerah Westfield bus interchange, then Wyong rail-bus interchange at Wyong Station. From there direct to Lakehaven stopping center bus interchange allowing stops between Wyong and Lakehaven.

This would be a Metro style bus with an hourly service all day. This service will integrate with the 37 service and the 80 service, but avoid conflict with them. Possible starting just ahead of each service from Gosford Station and Tuggerah.

This service would in theory allow a traveller to go from Gosford to Charlestown with one transfer assuming a new 99 Charlestown service had been implemented. This would allow travelers to go from Gosford to anywhere in Greater Newcastle with two transfers.

Why use the bus instead of the train for this trip? With implementation of an integrated ticketing system on the buses, the cost would be about \$4:50 full fare to Charlestown. Travellers would not have to travel to a specific station and get a bus back to their destination. Charlestown buses fan out all over Newcastle. See paper Appendix E under "[Proposal for a Blue Haven Station and Interchange](#)".

It will be faster and seamless bus travel between Gosford/Erina and the north of the Central Coast. Currently we have the Red Bus services running services from Gosford/Erina to Bateau Bay, changing to the Lakehaven service through The Entrance on the eastern side of the Lakes.

On the western side of the lakes we have Busways services running local services from Erina to Gosford, Gosford to Tuggerah and Tuggerah to Lakehaven. Most commuters traveling to Gosford from places like Charmhaven or Budgewoi at present have several changes to make on the bus or if they use the train from Wyong to Gosford, just as many changes.

A direct service from Lakehaven to Erina via the Pacific Highway would give a more attractive alternative to the present system and perhaps entice more of the growing amount of commuters travelling the length of the Central Coast.

In the north, both the 93 bus service and the 94 bus service are growing in popularity as direct route services at peak periods. Extensions of these services to Erina Fair via Wyong and Gosford Stations could be a good proposition. Perhaps having them run hourly during the day and with higher frequencies at peak periods.

7. A walking bus program / (Riding Bus Program).

By implementing a walking or riding school bus on the Central Coast we are implementing innovative transport methods that do not depend on personal motor vehicle use for short trips.

The Central Coast experiences traffic congestion during peak periods. We as a community need to look at solutions to reduce this congestion. From a strategic planning perspective, a continued reliance on personal motor vehicle use has a number of long-term detrimental results.

1. Threat to the natural environment by increasing use of fossil fuels
2. Increased expenditure on widening roads and a spiraling cost to maintain these roads.
3. As mentioned about increasing congestion on the roads potentially creating:
 - (a) Longer and longer time in the motor vehicle.
 - (b) Higher stress levels
 - (c) Health problems due to lack of exercise

These types of programs would be designed to reduce the number of parents driving their children, but at the same time increase security for the child travelling to school.

Parents must pay for school bus transport to school if the distance from home to the school is less than 1.5 km. As a result many children are being taken this short distance to school by car to ensure a safe arrival at school.

Often this seemingly short distance to school has hazards on the way. Some of these hazards include waterways, creeks and large high traffic roads. These obstacles need to be overcome safely by parents.

Some of these obstacles should be overcome by the use of a school bus and in such circumstances bus passes should be issued to these students. But where the obstacle is a road or any hazard that can be traversed under adult supervision then the walking/riding bus is an option.

A properly supervised walking (or riding) bus program would have as side benefits:

1. Promoting road safety skills for children
2. Increase the exercise, and therefore the health of children (and parent volunteers)
3. Reduce greenhouse gas emissions
4. Increase safety near school areas, by the reduction in car movements near children
5. Keep children on designated pathways and road crossings
6. Increase community by providing some street life, leading to stronger and safer communities
7. Encourages children to socialize and make new friends
8. Reduce congestion around schools at school start and finishing times

A walking (or riding) bus provides a safe, non-polluting, enjoyable and convenient alternative for children to travel to school with adult supervision.



We believe this type of program can work equally well as a walking bus or using bicycles to travel to school.

Basically, the concept required a responsible person, experienced with the route to school, walking or riding a pre-determined route at a particular time each school day. The responsible person would collect walkers or riders at locations along the route. Parents would be able to deliver their children at these locations to the responsible person if they wished.

It would be mandatory that all responsible walkers or riders be registered with the program and have appropriate working with children credentials. It would be envisaged that all responsible persons be trained in a range of needed skills and have a mobile method of communication with parents, the school, police and emergency services.

Better pathways and cycle-ways

As part of the walking bus and riding bus program it would be envisaged that funding grants be allocated to local councils to provide the safe infrastructure required for the planned program. This would include the construction of better footpaths and cycle-ways for school children, parents and the responsible program personnel to travel.

(The author acknowledges the contextual contribution of the Walking Bus article on the CEN web page to this section. The referenced text has been edited and tailored into the originality of the concept of the walking and riding bus program presented in this section.)

8. Safety for Drivers and passenger

Many drivers are being assaulted. This includes on many occasions where drivers are being spat at. To help curb these practices we suggest the following strategy.

Components of the strategy should include:

- (a) A respect your driver advertising campaign.
This would include a positively reinforced advertising campaign designed to change perceptions of bus drivers by the general public and outline the fact that bus drivers have responsibilities.

Some of these responsibilities are:

- (i) Ensure comfortable and safe travel for passengers
- (ii) Ensure everyone on the bus has the appropriate, valid ticket
- (iii) Ensure passengers obey the code of conduct as posted in the bus.

The campaign would be designed to show how bus drivers have a difficult job and need help and respect from the public to do their job effectively.

- (b) More police on buses or following buses at night
Increasingly, anti social behavior is being conducted by persons in the night hours. Often this behavior intimidates both passengers and drivers.

The following is a small list of the type of behavior happening:

- (i) Projectile throwing at buses.

These projectiles can be as benign as eggs or as dangerous as bricks. However, all projectiles can be dangerous if they happen to go through the driver's window and hit the driver in the face, as happened late last year to a driver in the north Wyong area. Windows are often smashed by harder objects as happened also late last year in the north Wyong area, where a passenger had only just alighted from the bus, when before the next stop a brick came through the window in the exact spot where the passenger was sitting.

- (ii) Fare evasion.

People pushing past the driver without paying a fare or complaining about the type of fare they should be paying often escalated to verbal altercations or assault.

- (iii) Anti-social behavior in the rear of the bus, which may affect other passengers.

Often this behavior is associated with drinking alcohol prior to boarding the bus or drinking alcohol on the bus.

- (iv) Not abiding by the code of conduct on the bus.

This can include dropping rubbish on the bus, eating food on the bus, drinking on the bus, except water, fighting on the bus, or using abusive language on the bus.

With a greater presence of law enforcement officers on the bus and/or following the bus, this type of behavior will become too risky to undertake without getting into serious trouble.

- (c) More visible presence of bus officials and inspectors who can fine the public for breaches of codes of conduct.

As indicated in (b) (ii), (iii) and (iv) above, these behavior problems would be drastically reduced, both in the day and through the night if a larger presence of bus officials or inspectors were present on the bus.

The need for a greater presence goes equally with the need to have on the spot penalties issued or in the case of students travelling on the buses, names taken and action taken by schools and parents to address behavior issues.

9. More low floor buses on service runs

As the public get use to these low floor buses, they start to expect these buses on all runs thereby start to rely on a low floor bus service.

The low floor buses provide a valuable service for:

- (a) The elderly

It has been observed by drivers that the elderly are more and more relying on the bus services to provide transport to shopping centers and appointments. What seems to be happening is that as these older people get older they become less able to negotiate large gaps and high steps when boarding the bus. Since most of the time they have the services of a low floor bus that can be lowered, they do not encounter a greater level of difficulty boarding the bus. However, when an older bus arrives that doesn't lower, they find it almost impossible to board. Bus drivers have been known to help these people onto the bus, risking injury to themselves or the passengers attempting to board.

(b) The disabled

The disabled are not just those confined to a wheel chair. Many lower income people rely on the buses for transport for a range of reasons. These people are most likely unable to work due to several factors including their disability and the type of transport available to them. In many cases in the north Wyong areas the only transport available to these people is bus transport.

These people, even though they are relatively young, often have trouble with their legs. They may have an injury or some sort of degenerative condition. This means that until they approach a bus and attempt to board, a driver has little idea whether the person may need assistance to board. Often the only assistant the driver can give is to lower the bus. If by chance, the bus is not a low floor bus the person may not be able to board, or worse, risk falling while boarding.

(c) Mothers with prams

Often mothers enjoy the low floor buses when travelling with a young child in a pusher or pram. Bus operator rules are that if the bus is not a low floor bus the pram or pusher must be folded and placed in the luggage bay.

Often these pushers are quite large and cumbersome to fold and store in the regular bus luggage bay.

Often mothers travelling on the bus have the luxury of having a low floor bus to travel on and the folding of the pram is not needed, however when a mother usually gets a particular bus in the morning and it is not a designated low floor bus run, but mostly a low floor bus comes, mother come to rely on a low floor bus when travelling.

If a non low floor bus arrives, the stress already associated with travelling with small children can significantly rise when the mother has to board a bus with the child under one arm, the pusher in the other arm and any bags that were on the pusher held in some way by the mother. Then when boarded, she needs to find a fare or pre-purchased ticket.

It is recommended that bus companies be supplied with a full complement of low floor buses and spare buses to be used on service runs to avoid the above circumstances and to further encourage the public to use bus services more widely.

10. More dedicated school buses.

By mixing young school children with regular passengers, it often creates an amount of noise and behavior issues at a level intolerable for regular passengers. It is not that the young people are misbehaving; however it is about tolerance levels.

Some of this behavior by school children can compromise safety and the well being of both paying passengers. Also by mixing school children with adult paying passengers some risk factors related to security issues may be present for younger children. (Parents should feel secure in letting children ride the bus home.)

Although bullying issues are often hard to spot by bus drivers, drivers are able to some extent report behaviour difficulties to the school via a reporting mechanism. Drivers can communicate better with children in dedicated school buses.

11. A new integrated metro bus loop system

The introduction of a public bus system involving all the private bus companies, integrating their services into a metro bus loop system running around the lakes in both directions. The loop system would allow buses to graduate from one loop to another within bus regions 6 & 7.

For example:

A bus may be on the Budgewoi Lake loop on a 92 service. The destination would read: "Lakehaven continuing to The Entrance via Wyong Station and Tuggerah Westfield". This would mean that the bus is now on a Tuggerah lake loop route. In practical terms the bus could be a Red Bus, Busways bus or a Coastal Liner Bus.

This system would require the practical application of the integrated ticketing system outlined above between the Central Coast bus company services in region 6 and 7.

It is envisaged that the metro loop bus system would integrate with the proposed north/south metro bus as outlined above.

Service on these loops would run Metro type services at 30 minute intervals and 15 minute intervals during peak periods.

12. Inequity of road maintenance funding for councils

The bus routes are pre designated routes that a bus travels at a particular time of day or night providing a public service for individuals to a series of stops along the way to a destination.

This route generally travels along an existing road network. This road network is often using State, regional and local roads to maintain the required coverage for the area which in the case of Wyong and the North Wyong region is approximately 400 meters for all residents to walk to the nearest bus service. These non major roads traditionally have been maintained by local councils to provide for light vehicular traffic.

State roads in the region like the Pacific Hwy have been designed for heavy vehicular traffic and are maintained to the higher standard by the RTA.

Regional roads similar to Sparks Road have often also been designed for heavy vehicular traffic and are maintained to this higher standard by Council or the RMS.

This higher standard of construction includes a thicker road base and better drainage which caters for heavier vehicles. Heavy vehicles do less damage to the road foundations of a road designed for heavy vehicles than a road designed for light vehicular traffic.

Local roads are often constructed to a lower standard and are designed for light traffic and lower volumes of traffic. If heavier vehicles travel on these roads, more degradation to the sub base will occur than with car traffic and if high volumes of traffic flow occur on these roads including heavy vehicles, the road sub base deteriorates more quickly exposing cracks in the weatherproofing bitumen.

It is well documented that every heavy vehicle that travels a road does many times more damage to the road than a lighter vehicle like a car. These heavy vehicles vibrate the sub base of the road which opens up small cracks in the weather proof bitumen surface. When the next rain comes water seeps in and starts to wash away the sub clay of the road. If a bus or truck rolls over the road in this condition it will tend to create a pot hole in the bitumen which will continue to get bigger with each successive vehicle rolling over the fault in the road.

In addition, the roads in the suburbs where bus routes run are generally roads not only for low traffic volumes but for low loads. The over use of these roads generate considerable maintenance costs.

Many of the roads in the North Wyong sub-region are rural clay roads covered with a thin layer of bitumen to weather proof the road to reduce corrugations. However, these roads now carry large amounts of traffic, which includes buses on regular bus services. These roads require very high amount of maintenance, particularly after rain for the above reasons.

However, it is not enough to maintain these roads, but a complete reconstruction of these roads to the higher standard is required to accommodate heavy vehicles.

The weight of an ordinary route bus will range from 11 to 15 tonnes, depending on the loading. This means that they are a heavy vehicle and can cause up to 10,000 times as much damage to a road as an ordinary car. (Ref: The Melbourne Sydney Freight Transport Corridor by David Holland pp.9 1995, Quote from O'Neill & Waters (1989))

This seems an incredible figure, but is borne out by a table produced by the Australian Bureau of Transport & Communications Economics (ABTCE), (1989) discussion paper on page 50.

The recognition of this degree of damage caused by heavy vehicles raises two important issues.

- Equity of funding roads. Local government should not be subsidizing public transport. Now the State Government through contracts pays for the local bus companies to run public transport service. Therefore the State government is responsible for the damage to the roads.
- It would be cheaper to re-construct high maintenance roads for heavy vehicles and not continue to patch old under designed roads.

Recommendation:

That the State Government takes over the funding for these bus route roads and reconstruct them to the appropriate standard.

13. Better integration of Rail into planning Energy Systems for the future in NSW.

Over the next few years the dynamics of transport will change. There will be a move towards more public transport and less reliance on personal vehicles. This coupled with a mandate from the Federal Government and many world governments to embrace renewable energy for transport applications will transform transport in the next decade.

Rail Corp will be forced to plan for these new directions. Not least to play a pivotal part in the development of new efficiencies and with the use of clean and renewable energy, help New South Wales to meet its energy targets.

The current way we power our public transport systems will move towards renewable sources. For the electric rail network this is probably a simple change. With many States in Australia approaching 20 percent of their power coming from renewable sources, the conversion of all electric rail and tram systems being powered by renewable power sources should be a simple stroke of the pen. By State legislation all transport Authorities could easily buy

Green power tomorrow.

However, both State and Federal governments should follow this up by providing seed funding for projects that will provide at least as much power that is needed for these electrically powered public transport systems in as short a time frame as possible.

Concern should be given by the State government and Transport for NSW to the bias of funding away from rail infrastructure and towards road infrastructure. This bias has caused a disproportionate increase in the use of truck transport for freight.

It is well known that the main northern rail line is at or near capacity, particularly around the Central Coast region. The passage of passenger trains and freight trains must be timetabled carefully. If any new stations were included in the Sydney to Newcastle line timetable, planners would be hard pressed to find openings for these extra stops and new services.

New infrastructure is urgently needed in this growing region to provide extra capacity for both freight rail and for needed expansion of the domestic Central Coast rail services.

This region, along with many others is bypassed with 4 and up to 6 lane freeways. However to travel quickly from one end of the Central Coast to the other many commuters use this freeway regularly. The freeway is an important regional and interregional transport corridor for the regions commuters.

The Central Coast is not unique in this. The Illawarra, has a similar situation.

A dedicated freight line in these regions is important for several reasons:

- Commuter traffic, both rail and motor vehicle will continue to grow in these fast growing areas outside the main city hubs and when freight is competing for both road and rail space, the system becomes congested and inefficient.
- Rail can be electrified more easily in a rail freight system of transport. This means that with an electric freight line system, electric power from renewable sources can more readily be used, thus reducing the impact freight transport has on the production of fossil fuel pollution and CO2 emissions in the atmosphere.

Following is a link to an NSW government briefing paper that argues some way towards this position.

[http://www.parliament.nsw.gov.au/prod/parlment/publications.nsf/0/A0CB255101944015CA257663000E781A/\\$File/Rail Freight Transport in NSW.pdf](http://www.parliament.nsw.gov.au/prod/parlment/publications.nsf/0/A0CB255101944015CA257663000E781A/$File/Rail%20Freight%20Transport%20in%20NSW.pdf)

However, the briefing paper is mostly interested in bulk freight like coal transport to duplicate freight lines and reopen country regional lines in NSW.

Without a modern efficient and imaginative approach to rail freight, few trucks will be removed from the roads and the gain to the reduction of CO2 will be minimal.

The new proposed rail lines must be designed to carry trucks and new drive-on / drive-off freight handling systems must be built in the major cities.

The advent of a carbon trading system that will put a price on carbon externalities emitted may force many trucks off the road, or prohibitively increase the price of road freight. Governments must act to accommodate this change and provide efficient services for freight today.

When travelling the Hume Highway between Melbourne and Sydney in the 1990s, one would notice that the road conditions were getting better due to road pavement improvements and large stretches of freeway conditions.

When comparing the factors relating to the freight carried by road and the freight carried by rail, it becomes evident that in effect road freight is being subsidized by the taxpayer to a significantly larger degree than rail freight.

With the funding of the new roads, road transport was gaining a competitive advantage over rail. This argument was made in "Melbourne – Sydney Freight Transport Corridor 1995" by D Holland.

These days we have much larger trucks travelling the highways to try to increase efficiencies. Roads are renewed constantly and bigger roads are constructed mostly because of a need to connect our larger cities with road freight corridors.

While at the same time much less in proportion was spent on rail infrastructure that was specifically for rail freight. The basic impediment to properly integrate road and rail freight is the lack of infrastructure at city nodes to put the freight from local road carriers onto the inter-regional rail system. Infrastructure would be need to seamlessly load freight onto the rail and take it off again at the other end.

Implementing a system similar to this would reduce the number of B-Doubles on the roads by thousands all running on diesel and puffing out CO2 all over Australia. This is an expensive exercise but would have a significant benefit towards achieving CO2 reduction targets.

Also, dedicated freight lines between our capital cities on the east coast carrying most of that freight with fewer diesel engines and less stopping and waiting for passenger trains to pass should be more fuel efficient.

The above proposal suggests that these engines could be powered direct from the grid and be all electric up and down the east coast, using power from green sources.

Conclusion:

This proposal suggests an increase in the efficiency of our freight systems and at the same time reduce carbon emissions related to freight.

This could be done by heavily funding rail freight services on the east coast of Australia in partnership with adjoining State governments to build:

- (a) Fully electric high capacity fast rail links between major cities. Including a direct link from Adelaide to the eastern line near Newcastle.

Perhaps the first plan for this line should go from Melbourne to Adelaide then to near Newcastle and then to Brisbane avoiding many mountains and rivers that are more costly to cross. The Melbourne to Sydney freight line should be updated to carry these new types of loads with great urgency and electrified as soon as possible.

- (b) High volume rail freight/road freight interchanges at the exits of each city, and at some regional centres where the proposed rail freight lines pass through.

These interchanges should be designed to allow the whole truck load to be loaded on the rail service within minutes. This could mean that specially designed rail trucks would carry the whole truck after driving on.

As these new rail lines may have new rail corridors built to accommodate the new widths and heights of the rolling stock, it gives an opportunity for new height and width standards for this rail line to be implemented.

So that the electric rail network is able to access and use power from renewable sources or have the power from green power credits during night uses. This would create a larger market for green power in Australia and reduce the amount of heavy vehicles carrying freight where rail is more efficient.

Ref. [Commentary on Australia's future for renewable energy p. 44-46](#))

14. An integrated planning approach for Planning Transport Precinct in Wyong Township.

Wyong has been the hub of activity for the region up until recent times. However, as the population has started to explode, the town's economy has started to come under threat from adjacent commercial centers. Wyong Council, through its planning department, has attempted to head off this trend by providing a framework for business and commercial development within the town.

As part of this, recently Wyong Council released a rezoning plan and amendments to the Wyong Township's Development Control Plan No. 7 with the intention of encouraging a revitalization of the town. Council had recognized that over recent years the town has found itself relatively unattractive for private development. This is why council has moved to modify some building controls within the township precinct.

Although the town is moving slowly forward through public development most prominently the proposed Cultural Centre, the likelihood of significant private investment in the Baker Street Master Plan, The River Foreshore Master Plan and the revitalization of the Heritage Town Buildings by business interests throughout DCP 7 is unlikely unless significant public investment is made in the Transport Precinct of the town. This transport precinct is the most frequented part of the town. Many people travel through this precinct to other places, but few linger in the town.

We believe that unless large public infrastructure is invested within the township's transport precinct, all the above efforts will not be enough to turn the town around and enable it to compete in a marketplace of private development dollars amongst places like Tuggerah precinct and the new Warnervale township, both of which have similar business attracting assets as Wyong. This includes a railway station and a bus interchange.

In addition, the North Wyong Structure Plan proposes another competitor of the private development dollar to the north of Wyong, the Wadalba East Town Centre.

We believe this investment away from the township will intensify due to the attractiveness of the Tuggerah Precinct, and the proposed New Warnervale Precinct where a large amount of the State government's funding is poised to be poured into the precinct to initiate development inertia.

Now the new town of Warnervale has started to be built, less people from the area around Lakehaven will come to Wyong preferring to go to the new Warnervale Station to travel by train. Also as the old Warnervale station is revitalized, more people from the areas north of Wyong will use this station.

Council has proposed three master plans for the town precincts under its planning controls. The Cultural areas of DCP 7 which is part of the existing

town's older buildings around the proposed Cultural Centre, Baker Street Master Plan and the Foreshore Master Plan. None of these will be attractive to developers unless the transport precinct is properly planned and developed.

To help encourage private investment on the east of the Wyong Station, the town will need to establish a good pedestrian link across the railway station. With this connection, the Baker Street Master Plan will become more attractive to any likely investor in the Baker Street plan.

Currently the town has the luxury of having a vibrant transport interchange. Much of this activity generates a sense of business in the town, cars passing through and buses, trains and taxis ferrying people in and out of the town. But how much of this activity is settling in the town? It seems that people only use the town as a place to move through.

The town needs to develop a heart, a heart where the people passing through feel enticed to stay. There is the negative prospect of people being drawn away from Wyong, given:

- (a) a new interchange at Warnervale Township, where buses and people from Lakehaven, Blue Haven and other localities in the north of Wyong will come more frequently, and
- (b) the magnetic influence of Tuggerah Westfield, intensified by the additional expected developments to the west of the current complex called the Gateway development, Wyong will become literally a dead Centre.

Many people that are asked how they feel about Wyong Township say that it is not a nice place to stay and they tend to do what they need to do in the town and leave.

Both business and high-density developments will require good public and private transport links. These links must be planned within the State Government owned transport precinct. The town must develop a heart. This too must be developed in the current transport precinct.

The position of the precinct is important. The current transport precinct is between the old town and the planned new developments in the Baker Street area. A properly planned heart within the transport precinct would connect the two halves of the town.

The heart of the town must provide within the transport precinct the following:

- (a) A passageway for the Pacific Highway;
- (b) The immovable railway line;
- (c) A bus interchange;
- (c) Taxi ranks;
- (d) Commuter car parking for rail users;
- (e) Car parking for shoppers, and

(f) A commercial area consisting of small shops to encourage that sense of place so necessary for a heart of a town.

The planning of additional community space is also important. All this must be accommodated within this precinct to ensure the survival of the town as a viable and vibrant business center for the region.

How can all these service be supplied in such a seemingly small area of land? That would be the challenge of a consultative architect and a properly thought out plan.

We suggest a re-evaluation of the RMS proposed design of a 4 lane highway through the township and we would implore Transport for NSW to involve Infrastructure NSW to find funds and partnerships with other state agencies and instrumentalities, to prevent further severing the town and provide a plausible plan for the future revitalization of the town.

The above approach would have advantages for solving the traffic problem of Wyong Township; allowing for a freight line to the North Coast; and increasing the capacity of the capacity of the current rail line.

This approach would also solve the east west pedestrian connection. The existing pedestrian problems may be exacerbated by current Roads and Maritime Services RMS plans within the Wyong Township, where the town will be cut off from the bus interchange and any developments to the east of the town by a new RMS Pacific Highway proposal.

We believe that the Regional Development Australia Central Coast (RDACC) should be involved in the co-ordination of the process to gain federal funding through Infrastructure Australia.

Infrastructure Australia was set up by the Australian Government to help solve traffic bottlenecks. Properly designed infrastructure like an interchange at Wyong would solve the bottlenecks related to both future development of the town and transport issues related to vehicular traffic and passenger and freight rail transport through the town.

We would also be proposing that the Central Coast Regional Development Corporation (CCRDC) be involved in the initiative as they may be able to encourage private business investment in the project, thus making the infrastructure plan more attractive to Infrastructure Australia.

We also ask that the RMS present the project to Infrastructure NSW.

We believe Infrastructure NSW should be able to make a case for the project and present it to the State government as an important infrastructure project. We believe that Infrastructure NSW will be able to help facilitate state agencies, such as RMS, Rail Corp, and Transport for NSW to co-operate to create a plan for the transport precinct. In addition Infrastructure NSW can help put a case to the Federal infrastructure funding body, Infrastructure

Australia, to contribute funds to this new transport precinct incorporating the passage of the Pacific Highway through the town of Wyong and a new Transport Precinct for Wyong.

It is envisaged that funding will be sought from several sources including;

- the State from existing capital works budgets;
- the Federal government through Infrastructure Australia; and
- private investment.

We would like to be a little careful in being specific in the formulation of any design for a new Wyong township transport precinct because any specifics of a design can be heavily criticized as impractical.

We believe that given the appropriate funding, a clever design team could conceptualize a solution to the problem needed to save the economic future of the town of Wyong, and provide a practical solution for a vibrant transport precinct around the current station's location.

There may be an opportunity for a multi level design that allows the Pacific Highway to be lowered through the town to the same level as the road bridge as it traverses the Wyong River. Potentially a similar design opportunity may allow sufficient height to build over the roadway a plaza and a bus interchange at a similar height to the current rail overpass bridge to Howath Street, still allowing the current main street to interact with the plaza level.

When incorporating provision for a new freight line into the station complex perhaps on the east side of the railway, a multi level commuter car park could be built taking advantage of the difference in level between the current rail line, the level of the overpass to Howath Street and the level of Howath Street.

It would be envisaged that the current level of the Pacific Highway would remain as access to the town in front of the shops, and be used as access to the proposed Baker Street developments and to the bus interchange.

It would be expected that the Plaza would incorporate a range of new commercial premises. This would give commuters and town workers extra opportunities to shop, providing the potential for a vibrant center to the town and a convenient linkage to the Baker Street proposals and the Foreshores master plan proposals.

These linkages are important to encourage business, residential and commercial development on the eastern side of the township.

15. Bus Stop Access for older Commuters and Maintenance

Central Coast Health have embarked on a program called, "Stay on your feet"

This program is aimed at senior citizens travelling on buses. Busways, Redbus and Gosford Council have joined forces to minimise the likelihood of older passengers having a fall when boarding, travelling on and or alighting from buses.

The initiative is aimed at buses stopping closer to kerbs, drivers waiting for older passengers to find a seat before moving from the stop and includes the display of literature on the prevention of falls on buses by encouraging elderly passengers unsteady on their feet to find a seat as soon as possible after boarding the bus.

Ref: Central Coast Express Friday 18th April 2009 (Central Coast News)

We ask that Councils be provided with funding to join the effort by helping bus drivers to do their part by allowing buses to pull in closer to the kerb sides, thus providing easier access for passengers to the front door of buses.

We believe some small maintenance improvements by Councils and the R.M.S. around bus stops would help provide this easier access.

Some of these maintenance works relate to the following.

Maintenance Items:

1. Filling up the gap between the new bus stop shelters and roadway with deep road base suitable for a heavy vehicle and place a bitumen surface over it to allow buses to pull up adjacent to the new concrete platforms without tearing the bus tyre when the front wheel falls of the road surface into the uneven surface now present at some bus stops.
2. Cutting tree limbs over hanging the curb or nearly over hanging the kerb, which tend to discourage drivers from coming in close to the kerb. These trees endanger bus mirrors and the left hand roof of buses and putting them at risk of being smashed or causing other vehicles to collide into the rear of the bus by having the rear of the bus skewed out into the traffic flow of the roadway.
3. Repairing road surfaces with pot holes and undulating bitumen repairs with road base and a new bitumen surface appropriate for heavy vehicles on the approaches and departures of bus stops. This would prevent elderly passengers approaching the door ready to disembark or one settling into their seat from losing their balance when the bus bounces violently over these pot holes.

4. Cutting bushy trees and shrubs on the approach side of the bus stop so that the driver is able to adjust the speed of the bus appropriately to stop at the bus stop. Many bus stop signs are obscured by this type of vegetation.
5. Cut bush vegetation on the departure side of the bus stop. Although buses can turn into the traffic flow sharply in quiet streets, on busy thoroughfares it is better for a bus to travel some distance on the side lane to more closely match the speed of the traffic in the roadway before moving into the traffic flow. Vegetation removed on this side of the bus stop would ensure less chance of a false start where a car or truck has not given way to the bus on leaving the stop, requiring the bus to break heavily. This breaking heavily could cause standing passengers to over balance.
6. To help the bus integrate in to the traffic flow a bus may gather speed in the parking lane given enough room. However in some instances this operation is prevented by a single metal pole with a sign on it. The moving of this pole back a metre or so could make all the difference to the bus making an easy entrance to the traffic flow.
7. Since the front of a bus is some 2 metres in front of the front wheels drivers are trained to use the whole roadway by having the bus over hang the kerb on tight roundabouts and after coming around a parked car as they enter a bus stop. Often this is prevented by an obstacle such as a pole to close to the edge of the kerb or a structure close to the kerb. These obstacles cause the driver to corner shallow thus allowing the rear wheels to climb a roundabout causing an uneven ride or to stop too far from the kerb.
8. At a number of locations near bus stops the edge of the bitumen and the surface of the road-base at the side of the road are not at the same level, leaving a drop from the bitumen. This drop leaves abrasive bitumen exposed, and when buses traverse this drop, this exposed bitumen can damage tyres.

Following are some recommendations to bus stops to better accommodate buses and the ease by which they can pull up close to or over a bus that platform or kerb.

Buses have the ability to pull up with the front of the bus over a standard kerb without contact with the kerb. This is the ideal situation as the bus driver can nose into the kerb when nearly stopped allowing passengers to alight with only a small step to the ground surface. This is particularly crucial for elderly and disabled passengers.

The following is a list of situation where these optimal conditions are not met.

Construction Items:

1. In some locations the concrete platform designed for the bus to pull up at is too high above ground level. This means that if a bus driver attempted to pull up close to the platform the driver is in danger of damaging the bus on the concrete platform. All platforms should be constructed at normal kerb height from the road surface.
2. In some locations the bus stop has not been constructed. It is merely an earthen bank. In these circumstances the bus can pull up close allowing the passenger to disembark easily. However, in some locations it is unsafe because of the steepness of the bank or the bank is muddy and slippery in wet weather.

These improvements on the bus route network will improve customer comfort and reduce risk of elderly persons falling on public transport.

16. Change transport habits by an Advertising Campaign for buses Services in North Wyong, combining locality time-tables

One of the options that should be undertaken to bolster usage of the bus services over time is advertising.

It is often difficult to see the impact of advertising in the short term. Any increase in usage of bus services may take a considerable amount of time because in many cases residents are already locked into a pattern of transport usage related to their existing lifestyle. Due to the lack of bus services in the past, residents may have purchased a second car to ensure convenient travel when needed. This is particularly relevant to the Bay towns and localities of Lake Macquarie and Lake Munmorah.

Over the years bus services have been poor to these regions and even with the additional weekly services for commuters to Wyee and Morisset Stations, the areas still lacks a comprehensive service that allows for late returns from Lakehaven on week days and in particular on weekends where no new services on the temporary timetable apply.

An advertising program should be undertaken as a prelude to the North Wyong Bus Service Strategy announced in the recent Central Coast Transport Strategy to help change residents perception of the bus services in these areas and try to capture more travellers for the bus services.

As potential users in these localities are forced to read two timetables to understand their full travel options, there is an opportunity to supply each household in each locality with an easy to read combined timetable and destination chart tailored to individual communities. For instance let's consider Chain Valley Bay North. In this area there are two localities, the Houston

Submission to Transport for NSW on long term Transport Master Plan
 Compiled by David Holland: April 2012

Road estate and the Mulloway Road estates. Both of these should be represented on the one timetable and chart.

Example as follows:

From Chain Valley Bay North Monday to Friday

Service Time	Gwandalan /Summerland Pt.	Lake Munmorah	Chain Valley Bay South	Lakehaven	Mannering Park	Morisset Station	Swanslea
7:10am		L7:20am		8:03am			
7:33am		7:43am	7:54am		8:12am	8:37am	
8:26am		8:39am		9:19am			
9:50am	10:10am	L 10:29am		10:50am			
10:33am		10:42am		11:19am			
10:55am		11:05am	11:16am		11:35am	12:00pm	
11:57am		L12:07pm		12:29pm			
12:56pm	1:08pm						1:39pm
1:20pm	1:40pm	L 1:59pm		2:20pm			
H2:54pm		HL2:59pm		H3:19pm			
4:03pm	4:15pm						
4:43pm		L4:53pm		5:13pm			
4:55pm		5:05pm	5:16pm		5:35pm	6:00pm	
M5:54pm	6:05pm						

H – School Holidays only, M – Mulloway Road only, L – Lake Munmorah on Hwy only

There are two actions that need to be encouraged.

1. Get residents familiar with their own bus timetable
2. Help them over the longer term to change their travel behaviours and use the bus more frequently.

Step 1 of the advertising campaign

The Brochure

This brochure should be designed to do both actions required to increase bus usage. The changes required for residents to use bus services in the Bays areas more frequently will not happen overnight. To help keep all the travel options available in full view of residents in these localities a fridge magnet brochure may be the initial way forward, providing the following details.

The brochure should be about the size of an envelope, perhaps folded to allow more information, with a magnetic strip on the reverse side of the card. It should have the following information on it.

1. A timetable similar to above designed for a specific locality, both 'to' and 'from' timetables.
2. Advertising related to the efficiency of Bus travel – i.e. 50 cars to one bus – Save money and the environment, Travel by Bus etc.
3. Logos of sponsors of the Brochure/card be clearly placed on the brochure. For example: Transport NSW, Wyong Shire.
4. The service provider's logos strategically placed on the brochure. I.e. Busways and Coastal Liner.

Step 2, 3 and 4 etcetera will need to be planned within the upcoming North Wyong Bus services review process announced in the Draft Central Coast Transport Strategy. As part of these subsequent steps it is envisaged that a continuing education and bus usage campaign would be undertaken.

As part of these future steps, additional services will need to be considered to address the problems associated with the current services from these localities as outlined above. This should include better access to the Newcastle region via Charlestown for both shopping and for commuters travelling to work. With the addition of the proposed Woolworths shopping Centre Development at Lake Munmorah it will be easier to see needs for an expanded bus service in the area.

(see: [A proposal for a Blue Haven Rail and Bus interchange Appendix E](#))

17. A Proposal to Encourage further use of Public Transport

Travelling to School for Students by Bus and Car

First written:- 19th July 2008

Background

The newly published Central Coast Regional Strategy by the NSW Department of Planning suggests that there could be at least 69,000 new residents in the Wyong Shire residing from as far south as the Wyong township and towards the Northern regions of Wyong Shire. With the rise in single parent families in the area, a higher ratio of children to adults will occur. The fact that within new greenfield developments you are more likely to get younger families with more than two children at school, could mean that over the next 23 years we may expect to have up to 20,000 new students in the area.

There is need to address issues relating to traffic around schools and how children are travelling to school with the current population densities but with the forecast of more schools and more traffic these issues need to have some careful forward planning associated with the solutions.

Generally, parents taking their children to school in any local area can increase the traffic up to double it is at school holiday times. During peak traffic periods this slows traffic flows and puts pressure on an already tight public transport bus running schedule. These schedules often include school runs to transport children to the schools. This means that not only do buses encounter a general rise in traffic on standard service routes, buses also encounter more congestion around schools as they go to pickup and drop student at their school. This situation will only become more difficult as populations increase in the area. Bus drivers are very careful in school zones; however, because of the flurry of activity of car movements and children leaving or entering vehicles, buses entering into such environment can unnerve parents.

Currently school bus passes are issued by the bus companies for school students to use to travel to school and from school. The bus companies get an allowance for every bus pass issued from the state government. Under the NSW Ministry of Transport government rules, no student living within one bus section of the school is eligible for a bus pass. In practice this is a radius of 1.6 Kilometres from the school. This may mean that a student may need to travel along streets a greater distance than 1.6 Kilometres to get to school. It also creates the problem of small children who may be unsupervised or only supervised by other older children crossing major roads and negotiating other hazards.

The solution to this is that the bus companies allow children who cannot get the bus pass to travel, to pay a one section child fare. This means that the parents must supply small children with money each day both to and from school. We would suggest that such small child may not be up to taking care of this money during the day ready for their return journey in the afternoon. In any case children finding it better to travel by bus than to walk who live too close to the school have to pay a large amount of money over the course of the school year for the privilege.

Listed below are some of the issues relating to student travel to and from schools and some recommendations to help improve our planning for a better public transport system in the sub-region and to encourage more of the population to use public transport.

Issues:

1. Traffic Congestion

Traffic congestion around schools during school commencement times and school finishing times has increased over the last 30 years. This change has caught our senior urban planners on the hop. Many of them fondly remember walking to and from school and have not considered the changes to parent behaviour. Schools are not designed for the extra traffic and no consideration has been made for parent parking except for some small pick-up and set-down zones on the street.

Currently car traffic and bus traffic have to negotiate each other during these periods creating potentially dangerous situations.

2. School children safety travelling to school.

School children must be safe when travelling to school. Many parents take this safety need into their own hands and simply drive them to and from school. However this creates traffic issues and extra carbon emissions.

Bus companies provide a good and relatively safe service, however issues of bullying can still arise when bus drivers are unable to defuse situation while driving the bus. When this happens some parents prefer to drive their children to avoid unpleasantness on bus journeys.

School children unable or unwilling to use the bus service may be at some danger as they travel to school, particularly younger students who need to walk across semi major streets.

Many parents who drive there children to school are concerned about pedophilia. Over the last 30 years the media has made news of pedophilia cases thus creating a concern by parents about the safety of there children. This has meant that over that period an increasingly greater

amount of parents have been driving their children to school each day, whereas before this time almost no children were driven to school and most children walked to school even up to 3 or 4 kilometres.

3. Access to public transport should be made available to all students at a concession fare.

Currently, many of an age over the age of a child bus fare do not have a concession fare student card due to a lack of knowledge of how to get one or lack the application to get one. Also, many students are unaware of the recent changes to the age when an adult fare would be required. That age had risen to sixteen years old in 2008.

The above observations becomes more apparent during school holiday times. During these times more young people are travelling for recreation purposes to various destinations on public transport.

4. Problems with school bus-pass allocation, pass durability and compliance by students who do not show bus passes to bus drivers.

Bus travel should be a positive experience. If a student has not received a bus pass or has lost it, but knows that they must use the bus to get to school that day, it becomes a stressful situation for them boarding a bus illegitimately without a pass. However, the bus company must check bus passes to ensure that only students allocated to travel by bus are on the bus to avoid overcrowding.

5. Increase in population of students in North Wyong expected over next 23 years.

All students should be encouraged to use public transport so that as they become adults and move into commuting to work, the habit of using public transport should be encouraged to continue, thereby reducing the traffic on our roads, and reducing carbon emissions.

Recommendations:

1. Separation of passenger vehicle and buses around schools.

Currently congestion around school is increasing. The mix of bus and private passenger vehicles delivering children to schools is a potentially dangerous situation. Buses are very big vehicles, and drivers often encounter parents opening car doors into the path of their oncoming bus. Situation were young primary school children, who are unable or unwilling to get into their parents vehicle from the left side, commonly are seen by oncoming bus drivers to be loading from the right rear door. Traffic congestion around the schools due to parents dropping a child to school effects bus drivers travel times often making them late for later services in the day. This increases the stress on drivers and often means a driver is more inclined to speed or take off more quickly, risking the elderly's safety as they find their seat, to make up time.

Designated car parking or pick up and put down zones should be designed with new schools and retrofitted to existing schools well clear of bus drop off and pick up zones and away from bus turning circles.

2. Walking bus program implementation for most schools.

This is a program where children are escorted to and from school as if they had the care of a bus driver, but without the bus. The supervisor would walk along a predetermined route at a particular time and allow students to join the group of students walking either to or from school.

This program should be well thought out and be run by paid professionals and have paid walking bus supervisors that are trained in every aspect of the job that could arise. An operating policy and code of conduct should be established on best practice to ensure a quality service. This quality service should be designed to encourage parents to participate in the program by allowing their children to walk to school under its supervision.

Parents need to feel comfortable and secure that their children will be safe until they collect them in the afternoon in their local street or on the local corner. This programs purpose is not only to provide a service to parents, but will be designed to reduce vehicular congestion around schools, thereby reduce over-all traffic on the roads at peak period and reducing carbon emissions.

3. All students to be issued with bus concession passes.

In an effort to encourage the young to use public transport and continue to use public transport instead of buying a car, as so many do as soon as they can in this age of the automobile, and in an effort to reduce car use and thereby reduce carbon emissions, young people need to get familiar

with public transport and be encouraged to use it after leaving school. To do this each student needs to be issued with a concession card for travel on public transport. This card should be issued immediately upon enrolment at any educational institution. The card should be renewed every year. This could be done by the government sending a form to the enrolled address of the student, each year for the student to sign confirming that he/she is intending to continue as a student at the enrolled institution the following year. A new concession card should then be issued prior to that year commencing.

4. Bus passes issued by the bus companies should become more durable.

Currently, bus passes are generally made from soft card and tend to last only a couple of months unless cared for by the student in a wallet with a window in it. Bus passes are frequently lost or go through the wash in a student's shirt or trousers. This means that at Busways at least, parents have to travel to the bus depot and purchase a replacement pass, which is more durable due to it being laminated by the Busways office staff. Since many of the bus companies on the Central Coast are under government contract, it would be appropriate that these bus passes be issues by the government in a durable form prior to the end of the Christmas school holidays to ensure all students travelling by bus can board the bus from the first day with a valid bus pass. This would avoid the current circumstance were students board buses with no bus pass for up to three months after the commencement of school.

18. Dynamic Signage showing train and bus arrivals at stations

See the following link for the Sustainable Transport Committee submission to the [Outer Metropolitan bus review 2009](#).

Within the Outer Metropolitan Review submission, hidden away on page 17 under issue number 16 'Infrastructure Improvements' sub-point number 9 is the following:

9. Communication between State Rail and Bus
At present this is abysmal (says John, a Busways driver for 15 years)

An arrival notice board, the same as used at airports is recommended at railway stations in full view of the bus drivers. This should state timetabled arrival and an accurate time of expected arrival, so the bus drivers can make an informed decision on waiting for the train or not, given their other timetable and RMS driving time limitation. This could be places on the wall of the western lift tower at Wyong station and on the roof of Wyee station.

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It is entirely possible that this suggestion was over looked or simply put in the too hard basket considering the history of difficulties working with department such as Railcorp and the RMS. However since your government has taken both planning powers and planning budgets from these instrumentalities it is hoped by working together with the Department of Transport, Railcorp could partner with local transport providers in providing these simple signage devises to alert both bus drivers and passengers of updated train arrivals.

This would be very helpful to drivers as they could make an informed decision whether to wait for a train or not. Often times an arriving train may only miss a departing bus by 2 minutes, but the result means that a passenger will have to wait up to one hour or in some cases more, for the next bus. This is particularly relevant in the northern parts of the Central Coast where bus services are still less frequent.

One of our members recently travelled to Victoria for family reasons and visited the local railway station near where relatives live. It was a quiet locality on the main eastern suburban railway line out of Melbourne. Bus interchanges were on both sides of the station which was located about 18 kilometers from Flinders Street Station. (Melbourne's Central Railway Station).

He took the following photographs:

Bus Interchange Signage by Bus Smart





Blackburn Station Bus interchange, South Side

Evidently similar systems as described by the submission to the 'Outer Metropolitan Bus Review' by the STC are operating in Victoria right now.

Could investigations be started with a view to install such systems on the Central Coast or at least in the stations on the Northern end of the Central Coast, including Wyong Station, Warnervale Station, Wye Station and Morisset Station.

19. Customer comfort and Maintenance

A priority of the provider of public transport services should be customer comfort. Under the current arrangements, for a company under contract to provide bus services, more passengers mean more money to provide the bus services. Good State government planning policy for transport should mean more public transport users equates to less congestion on the roads and less money spent on new and wider roads.

But to provide better passenger comfort means not only better and newer buses, but better roads. Roads that jostle and throw passengers around the bus are not only unsettling for the customer but dangerous. This potential for discomfort is much more in the case of the elderly and young children travelling to school.

Drivers suffer from the effects of bad roads.

Even though many new buses have suspension seats, often a particular pot hole after rain will cause the driver discomfort or even injury when the suspension seat bottoms out.

Vehicle maintenance

With the state of the roads in the north Wyong region, many of the new buses are starting to rattle due to the bitumen corrugations caused by continual road patching. Other effects of the road surface include, tyre wear, steering parts replacements or maintenance and although rare, air bag blow outs. Sharp edges of the roads and edges of pot holes after rain, can tear or weaken tyre walls.

As the bus route network is now contracted to the bus companies by the State government it is logical that the funding for maintenance of these roads should be heavily subsidised by the State.

The State government through the RMS funding should reconstruct any road that is a designated bus route and that it is constructed to a standard that will carry heavy vehicular traffic without serious degradation and deterioration to the road surface.

Flood-ways on Route service Roads

In the Hamlyn Terrace areas there are several roads that do not have sufficiently large culverts to accommodate large flows of water after rain. These roadways are regularly covered with water after a short period of heavy rain. This often means that the buses are directed to be diverted, which puts pressure on the time tabled arrival time of the bus, thus creating a potential for passengers to miss connections.

The recommendation is that these sections of roadway be constructed to carry heavy vehicles and not allow water over the road in a flood less than a 1 in 100 year flood.

Minor roads with high use periods used as bus routes

There are a number of minor and semi major roads in the network designed for low traffic flows that not only carry high traffic at various times of the day, but have a number of buses and other heavy vehicles travel down them.

To exacerbate the situation these roads are just big enough for two passing buses, provided the parked cars on each side of the road are parked close to the kerb. In many cases these cars are large 4 wheel drives not neatly parked along the kerb.

To increase the likelihood of collision or injury to a pedestrian, these road segments are adjacent to schools and pre-schools and have 5 minute parking controls enabling a number of parking opportunities to occur over the period of an hour. This situation further increases the likelihood of a door being opened into the path of an oncoming bus by a small child, thus causing an unthinkable situation.

There are several schools where this potentiality exists, however two notable examples are Warnervale Road Hamlyn Terrace and Mataram Road Woongarra. These roads will be carrying even more traffic when the proposed Warnervale town centre is established.

Mataram Road will be extended to the town centre and will become the main road from places like Toukley and Lakehaven. This road is likely to carry more public transport vehicles to the proposed town centre than any other road.

This will mean that this relatively narrow road with very high use periods will contain public transport vehicles. These vehicles will be transporting passengers to the station at Warnervale in high volume. This will mean that the road will become very congested and a dangerous place every morning and afternoon when the schools start and finish for the day.

The recommendation is that the road is widened, or off street parking be provided with no parking on the street and only feeder bus service run down this route. This road should not be a main arterial to the new township.

Similar recommendations should be considered for other similar locations. ie. Warnervale Road adjacent to the New Warnervale Public School.

Another road of concern is Minnesota Road Hamlyn Terrance. This road was constructed to be a semi major road with low traffic flow. However, this road between Sparks Road and Warnervale Road although narrow is carrying large amounts of car, bus and truck traffic. With the new town centre at Warnervale, it is envisaged that this route will become the route of choice from Wadalba and Wyong. The neighbourhood along this road is concerned at this fact.

Road Islands and Roundabouts

Buses are large vehicles and often require the whole road to maneuver. The installation of traffic islands on bus routes should be discouraged. If traffic islands need to be installed they should have 45 degree or less kerbs or edges to reduce the likelihood of either damage to the traffic island by buses or damage to the bus's tyres by the traffic island. Any installed island should allow for the transit of heavy vehicle bus traffic on bus routes or school bus routes. This action will ensure drivers can easily negotiate these obstacles. (Note: Panorama Drive Charmhaven as a bad example of newly installed traffic islands)

Roundabouts should also have similar characteristics to the recommendation for traffic islands. Buses are a long vehicle and should be able to use the whole roadway when turning around them. Often metal poles have been installed by a council or the RMS for road signage, at a location too close to the roadway for a bus to safely use the full roadway. As the bus turns the front of the bus overhangs the kerb, while the front wheels remain on the road surface. This overhang of the front of the bus will interfere with the poles placed close to the roundabout causing the driver of the bus to turn more shallow and as a result the rear wheels or both the front and rear wheels mount the roundabout causing the bus to rock. This affects customer comfort.

Difficult situations for buses at intersection

(a) Currently controlled by traffic lights

There are a number of intersections in North Wyong areas, where buses must use the right hand lane of a two lane carriageway to complete a left hand turn without colliding with the kerb. In these circumstances the traffic light system must allow for the bus to do this turn without the driver forced to wait several cycles of the lights before a green light straight ahead and to the left is presented to him/her. An example of this is the traffic lights at the corner of Evans Road and Main Road East Toukley, where the driver is travelling north along Evans road attempting to do a left hand turn into Main Road.

(b) Currently not controlled by traffic lights

At certain intersections route buses are required to enter a major road from a minor road at a 'T' intersection. If the required turn is a right hand turn and at a time that has particularly heavy traffic on the major road, buses can wait several minutes before the road is clear enough to proceed. This causes major delays in the arrival time of that bus and often means that passengers miss important connections. One example of this is at the intersection of Norman St and Main Road Toukley where the 91 service bus is attempting to do a right hand turn from Norman Street into the Main Road.

Bus Stops

(a) Lighting at night

Customers waiting at bus stops are often not seen by bus drivers due to the darkness of the environment around the customer. Clothing colour is often of little help.

However reflective vests do help along with small torches. A better and more equitable solution would be to install small lights at each bus stop to illuminate the customer, thus alerting the driver in sufficient time to comfortably stop at the required stop. Installing a light and sensor powered by a solar panel could do this. The light would switch on as the sensor is triggered immediately below the light by the customer, thus illuminating the customer. A beam of light from the device would also be directed in the direction of the oncoming bus to alert the driver.

(b) Reflective bus stop signage

Bus stops are hard to see in the night. Even if a driver has a relatively good idea where the stop is, he/she needs to site the bus stop sign early to ensure a smooth braking pattern to stop the bus at the sign.

Reflective signs are helpful for passengers unfamiliar with the area to know when to alert the driver to stop in a sufficient distance to insure a safe and smooth braking procedure is undertaken to place the passenger at the bus stop.

(c) Need for more bus shelters

Too often customers of the bus services are deterred from using the bus due to no place to sit while waiting for a bus, or when raining no place to shelter from the wind and rain.

(d) Bus stops need to have platforms

Each bus stop, whether a shelter or just a stop, should have a step at about the same height as a kerb to enable a bus to pull up to, ensuring that the gap between the kerb and the bus is minimised. Often the elderly and infirmed have difficulty negotiating any height differential between the bus and the ground, if this is reduced by a platform the buses kneeling mechanism can ensure easy access to most bus customers.

(e) Bus zones instead of bus stops

Bus stops should have a minimum of 20 meters of clear roadway before the bus stop sign and 10 meter on the departure side of the bus stop sign. In urban areas there is some likelihood that car drivers will park closer to the bus stop signage than is acceptable for a bus to comfortable maneuver into the zone to drop passengers. One reason

for this seems to be that the zone is not delineated. It is recommended that the bus zones be delineated by bus zone signs in urban areas that have a history of cars parking in bus stop zones to ensure better compliance with the standard.

(f) Maintenance program for bus stop zones

Bus stops need to be maintained in good order. Bus stops require regular monitoring due to vandalism and wear and tear. Often the road surfaces need to be maintained. On the approaches and departures from the bus stop, continual monitoring of obstacle, overhanging trees and illegally parked cars, should be maintained by local council, the RMS and appropriate actions or maintenance undertaken.

20. Issues unaddressed by the 2009 Bus review.

The Sustainable Transport Committee (STC) in 2009 send a submission to the [Outer Metropolitan bus review 2009](#) process.

Outstanding issues in the submission include:

Issue 4: Transfer ticketing – Additional places to transfer

Issue 5: Sunday and Public Holiday services inadequate

Issue 6: Better connecting bus services to Newcastle bus services

Issue 7: Lakehaven interchange inadequate

Issue 8: The 78 Service to meet trains at Warnervale Station

Issue 9: Additional 97, 98, and 99 Services required

Issue 10: New ticketing proposal

Issue 12: Sunday 90,92 and 80 Services

Issue 13: Differentiate between 98 services running to Chain Valley Bay and the Blue Haven services

Issue 14: Introduce feeder services for the new proposed 99 service to Charlestown at proposed interchange at Lake Munmorah

Issue 15: Buses linking to other services

Issue 16: Infrastructure improvements

Issue 17: Transit metro bus concrete bus track-way from Killarneyvale to Tuggerah Station

21. Public and private transport planning into the future.

This section of the submission introduces planning of public transport networks. The main argument is that planners tend not to plan these networks ahead of the release of land. As a consequence roads are not specifically designed to carry heavy vehicles such as buses. Often the roads are not comfortably wide enough for these vehicles to pass and bus stops are not designed so as to allow the bus to stop on the roadway, completely out of the way of the general traffic flow.

We suggest that good planning for public transport has a spine and feeders for this form of people movement.

The Central Coast of NSW, which has a high expectation of large growth over the next 25 years, coupled with a good and reliable public transport network, we would hope that people will start to move from using their cars, to using public transport, thus reducing our carbon footprint and reducing the use and reliance on fossil fuels.

By governments investing in good public transport systems and actively encouraging the use of public transport for everyday commuting, governments are not only creating efficiencies in fuel by illuminating road congestion, but saving money on widening the road network to accommodate the many more cars expected without a well run, efficient, safe and reliable public transport system.

Governments have two choices

1. Continue to let development pressures determine the way most of the public travel around the suburbs of our towns and cities.

Over the last 50 to 100 years populations have grown with a continuing reliance on private ownership of transport. With this trend we have seen an increasing burgeoning of housing design totally reliant on this type of personal transport method. Councils and State government planners relying on an incremental style of planning have exacerbated this trend. This has meant that public transport has been an after thought, and follows the release of land.

Road networks have been the main design feature of new release areas. Bus routes tend to follow after the building of these subdivisions. Many of the roads in the hearts of subdivisions are not friendly to heavy vehicle traffic. So, option one is to continue this kind of development and allow pollution levels to climb even as the production of more efficient motor vehicles is happening and continue to increase congestion during longer and longer peak periods, while spending billions on toll roads.

2. Take the initiative and spend prudently to maintain employment levels and re-jig the public transport system and re-educate the public towards a more comprehensive use of public transport while at the same time encourage councils and State governments to re-plan local areas to accommodate bus friendly subdivision that are able to connect to fast rail and fast bus systems.

The question should be posed:

How easy is it to use public transport in the outlying areas of our major cities such as the Central Coast of NSW, the Illawarra, the western suburbs of Newcastle and the south western suburbs of Sydney?

Planning theory suggests that public transport should have a spine and develop feeders to that spine with lighter forms of transport. Our existing rail network is a good start.

Take for example an area like the Central Coast in New South Wales. The main northern rail line runs up its axis and has served well as a conduit for the transport of workers to Sydney over the years, however things are changing.

Large populations are planned in the northern parts of the Wyong Shire.

Commuters, instead of travelling to Sydney, as the region develops its own employment centers, are travelling more internally within the Central Coast. It is interesting to note that this region is some 60 kilometers long predominantly on the eastern side of the F3 freeway.

Most of the population travels by car to work and in particular those needing to travel from the north to work in the south of the region. If they wished to, or had no car or license to drive and had to use public transport, they could take a long bus trip with at least one change or a shorter bus trip to Wyong station again with one change, plus the change to the train.

In this situation it is an underutilized rail spine that is lacking more access points particularly in the northern areas.

The big picture is that we need to develop good public transport options and plan domestic living so that there is proper planning and good investment by governments to ensure good outcomes.

Ref. [Commentary on Australia's future for renewable energy p. 12-15, 38-41](#))

22. Sustainable resource Planning for transport

Planning for future sustainable fuel infrastructure needs

The NSW state government needs to plan ahead to help the promotion of markets that will enable a new styles of auto service stations to be built all over the State to supply new fuels like fuel cell fuel, hydrogen, modular battery pack exchange and an electric car or hybrid car plug in service.

Planning for sustainable fuels for public transport.

Greater use of public transport can drastically reduce the carbon footprint of the State even without carbon efficiencies in the transport system.

However, greenhouse gas reductions in public transport should be urgently planned for by state planning authorities. The federal government should be encouraged to provide and ensure that sufficient incentives are given to state governments to plan for these efficiencies and for greater utilization of an improved public transport system throughout Australia.

Planning subdivisions for Public Transport

The NSW state planning authority should be more prescriptive when producing planning documents related to subdivision design and public transport.

Public transport should have the same consideration in new estates as water and sewage services. It should be considered in a similar way to car access to individual houses. Public transport should be an integral part of the development control design, which means that heavy vehicle bus access to the housing developments needs to be maintained and planned for. This will mean that road widths, roundabouts and turning circles should be considered and designed for bus access.

In addition services in the subdivisions should include bus shelters at all bus stops and every house having relatively easy access to the public transport corridor.

Ensure that funding is available to retrofit public bus routes with appropriately maintained road networks and bus shelters.

This would mean that roundabouts, traffic calming devises, traffic island and road surfaces should be capable of accommodating passenger buses while giving a comfortable ride for patrons of the public transport service.

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