BUS PRIORITY PLAN

1. Purpose of Report

To outline the benefits of a bus priority plan for Wellington City and agree that the priority for scheme development should start in the central city.

2. Executive Summary

For Wellington city to continue to grow, a strong and reliable transport system is needed. To meet the current and future demand for travel we can not simply build more roads. This is neither affordable nor sustainable. We need to continually find more effective ways of gaining more efficiency out of the existing road network. By the prudent allocation of road space to buses we can achieve this. Buses are recognised as the most efficient movers of large numbers of people. By giving targeted priority to buses in some areas of the network we can improve journey times and improve the reliability of the service which in turn enhances the attractiveness of public transport.

Investigations to date conclude that it is possible to implement bus lanes on most key bus routes across the city. This will complement the city’s desire to intensify growth particularly along the growth spine and around transport nodes. The potential routes to be covered by the plan are shown in Appendix 1 of the attached report.

Where bus lanes would not be fully utilised under current demand, spare capacity can be fully utilised by allowing vehicles, including taxis with a number of passengers, to use it. This would encourage ride sharing and improve the efficiency of private car use. The bus lanes could also be used for cyclists, giving riders a degree of priority.

Adoption of the plan will cause in some instances inconvenience to kerbside parking users both in business and residential streets. However this will predominately extend to peak traffic periods only.

Schemes demonstrating a positive economic benefit cover the central city agreed growth spine and routes to key suburbs. To achieve this coverage would cost in the order of $33million. The use of innovative dynamic lane line technology could reduce costs significantly.

It is proposed to give priority to developing schemes for the central city first. This is because central city schemes will give the greatest benefit to the most
people and achieve the biggest improvement in bus journey times and reliability. Each individual scheme will be brought back to Committee for approval prior to implementation.

3. **Recommendations**

It is recommended that the Committee:

1. *Receive the information.*

2. *Agree with scope of the Bus Priority Plan.*

3. *Agree that detailed bus priority schemes be developed, firstly for the central city, which will be consulted on before being brought back to committee for approval.*

4. **Background**

4.1 *Introduction*

Wellington is a dynamic and growing city, and transport has an important part to play in supporting and directing that growth. Transport affects the liveability of the city, the economic growth and it influences where people choose to live. Ultimately, these factors affect our international competitiveness, and our long-term future as a city.

On many indicators Wellington’s transport system is performing well: our traffic congestion levels are lower than many comparable cities and our public transport rider-ship is higher. We are a compact city with short travel distances and a good level of connectedness.

However, Wellington’s transport needs are continuing to increase in line with the economic expansion and population growth. These changes are placing added demands on the transport infrastructure needed to support the city. Our good use of bus and rail needs to increase even further in the future. Otherwise, the growing population and increasing urban development will lead to greater congestion. Greater use of public transport will make the city more liveable and will benefit the economy by ensuring people and goods can be more efficiently and easily moved around the city. It is also a more energy efficient and environmentally sustainable option than private cars.

4.2 *Strategic Direction Supporting Bus Priority Measures*

The further introduction of bus priority measures in the city will support a number of strategic directions.

The long term directions detailed in Council’s Transport Strategy include:

- seamless passenger transport system along the growth spine. (Johnsonville to the Airport)
- bus priority measures on all main arterial routes to and through the central area
• a comprehensive travel demand management programme aimed at reducing the need for travel
• improving safety and personal security.

Specifically identified and supported in the Councils Long-Term Plan (2006-2016) as a priority in the next three years is to:
• improve the performance of the city’s passenger transport system through bus priority measures.

4.3 Future Network Issues

Future issues for transport in Wellington are:
• increasing congestion providing challenges to maintain levels of service and travel time reliability on arterial roads to and through the city
• increased competition for road capacity from buses, cars, cyclists, pedestrians and parking
• challenges regarding the sustainability of our transport system, particularly with respect to climate change.

Wellington’s transport system needs to support the city’s vision for future growth and be based on sustainable foundations. This is not simply on ecological or environmental grounds but on a social, economic and cultural basis. One of the most significant challenges the city is facing in the near future, is accessibility and mobility. The ownership and use of private vehicles is growing at a rate that cannot be accommodated by Wellington’s limited roading capacity. Congestion, travel delays and pollution is becoming a major constraint in our ability to grow and prosper.

Looking at the performance of the roading network there is little ability to manage further growth in trips to the central city during the morning peak. This is evidence by peak spreading. As the demand to move more traffic grows at peak time the only way the system can catered for this is by spreading that demand over a longer period. Further observation also reveals that there are a number of intersections which constrain the performance of the network. These constraints can be seen on any of the main bus routes identified in the plan.

To counteract this threat and with consideration of our limitations to expand roading capacity, Council has established a goal of promoting further the use of public transport. For this to be a viable, attractive alternative to the private vehicle, it must be reliable, frequent, efficient and convenient. This is not to say that further investment shouldn’t be made in the roading network to address known congestion points. This is especially true when considering improving the capacity of the state highway which will allow bus priority improvements along parallel routes.
4.4 **Frequently asked questions**

**What are bus priority measures?**

Bus priority measures are any techniques used to give buses priority over general traffic. These techniques may include measures such as bus lanes, bus advance signals, signal pre-emption, bus boarders, bus pockets, etc. These techniques are explained more fully in appendix 3 of the accompanying report.

**Don’t bus lane disadvantage cars?**

The plan largely relies on using kerb side parking areas or reconfiguring the road to achieve space for new bus lanes. This will mean that there is minimal disadvantage to general traffic. Where space is taken away from general traffic this will only be done where it is proven that the bus will move more people in that lane than is currently carried in private cars. Buses are the most efficient movers of large volumes of people.

It should also be remembered that every car driver that is encouraged to take the bus is another car that other drivers do not need to compete with.

**Why can’t taxis use bus lanes?**

Taxis carry a large number of people around the city daily and they have the flexibility to pickup and set down passenger any where in the city. Bus lanes are introduced to gain an advantage for buses which are on scheduled runs and fixed routes. Often bus lanes are relatively short and any gains made for buses through priority measures need to be protected to maximise these benefit. In any event, few schemes will be introduced that disadvantage the general traffic stream.

Allowing taxis would also:

- compromise the ability of buses to have clear uninterrupted travel down the bus lane to reach the front of the queue at down stream intersections
- hold up buses when taxis stop to pick up and set down passengers in the bus lane
- cause confusion and delays at intersections where there are special treatments for buses such as bus advance signals.

Issues of safety are a concern. These concerns include:

- the hazard of picking up and setting down passengers in the bus lane
- taxis pulling out of the bus lane to pass buses at bus stops
- right turning vehicles not seeing smaller taxis in the bus lane.

There are also issues about driver training that still need to be addressed before taxis could use bus lanes such as dealing with cyclists. Bus drivers currently go through this training.
Further reasons for the exclusion of taxis include the difficulty of enforcement as it is unlikely that empty or out of service taxis would be permitted to use bus lanes. Then there is a question of equity as to why a taxi carrying a paying passenger is afforded a time advantage over other vehicles such as trade vehicles going about their daily business. (Also refer to 5.3 for information on when taxis could be permitted to use bus lanes).

**Aren’t bus lanes unsafe?**

No, typically a bus lane is a separate lane that operates alongside the normal traffic flow. As such a bus is free to stop and start in this lane and does not impede traffic. It avoids the need for other traffic having to change lanes when it stops at bus stops. It is this interaction that is hazardous, as unexpected lane changing causes other motorists to take evasive action or in extreme circumstances cause conflict. At the very least the sudden lane changing is very disruptive to traffic flow.

Safety is another reason why other vehicles have been excluded from using bus lanes. Traffic turning right across traffic lanes which include a bus lane can see the presence of a bus in the lane across the top of other traffic but don’t expect to see other vehicles. Hidden, smaller vehicles are vulnerable to being hit by these turning vehicles.

Contra flow bus lanes, although efficient for bus movement through narrow inner city areas, can catch pedestrians off guard because of their intermittent presence. This type of lane is not proposed to be used outside the central city. More vehicles cannot be mixed with buses on contra flow bus lanes to make them safer. As the contra flow lane is only one lane wide and runs contra to the one way traffic flow of the street, any vehicle sharing the bus lane would have to make an unsafe manoeuvre to pass a stationary bus by pulling out head on into oncoming traffic. Therefore all other vehicles including cyclists are prohibited from using contra flow bus lanes which are marked as “Buses Only.”

**Can cyclists use bus lanes?**

Yes, cyclist can use bus lanes and the council will encourage them to do so as part of the development of a Cycling Plan for the city. They however need to be careful when passing buses stopped at bus stops. Bus drivers are trained to deal with cyclists on the bus lane. The introduction of bus lanes will effectively also provide for cycling along these routes.

**If bus lanes use parking areas won’t there be a loss of parking revenue?**

Most schemes will be introduced in areas where there is no paid parking. Where there is paid parking, most of these routes already operate clearway zones in the peak travel periods which don’t collect any revenue.

**How will displaced business and resident parking be catered for?**

Where the existing kerbside parking is not already restricted at peak travel periods alternative parking will be managed on adjacent side streets. There will
still be issues to address from businesses and residents over this because of concerns for lost business and vehicle security. Each scheme will need to address how these concerns are met and demonstrate that the imposition of a bus lane has benefits that out weigh any loss of convenient parking.

5. Discussion

5.1 The Draft Bus Priority Plan

The Council has successfully introduced bus priority lanes and bus priority signals to speed up bus trips. Over the coming years it is proposed to expand the network of bus priority lanes further. We have investigated each of the city’s main transport corridors and analysed the implications of expanding bus lanes along each of these to grow patronage, to improve bus travel times, and improve reliability. The Plan extends to all areas where there are known or growing constraints in accessing the city or suburbs particularly at peak travel times.

The potential routes to be covered by the Plan are shown in Appendix 1 of the attached report.

5.2 Impacts of the Draft Bus Priority Plan

While it is accepted that bus priority measures will:

- improve the reliability of bus travel times
- help reduce pressure on private transport, particularly on commuter car use
- reduce passenger trip times
- move large volumes of people efficiently

There will be impacts on other users of the road network. These will include;

- restrictions on parking
- some loss of private transport capacity on bus routes
- some restrictions on vehicle movements

Preliminary assessments have identified the potential impact on businesses, residents and pedestrians. The major impacts will be the loss of kerb side parking and the cost of making physical changes to the road to fit in a bus lane. Because most of the demand for travel is at morning and evening peak times, parking can be retained for most of the day. Having said this there will be considerable issues of inconvenience to be overcome with adjacent property owners.

Currently traffic is growing at 3-4% a year. Examples of current constraints in the network can be seen in the following areas:

- Central City – Manner Street and Courtenay Place
- Southern Suburbs - Riddiford Street and Adelaide Road
- Western Suburbs – Glenmore Street and Bowen Street
For every 1.3 people attracted to use the bus because they choose to, one car is reduced from the road. And if every year 3-4% of car users can be encouraged to use the bus, current traffic efficiency can be maintained and the current levels of congestion can be kept in check. To do better will improve the current situation and level of service for private vehicle users. The plan is therefore not anti car but a move to improving mobility for a growing number of people wanting to move about the city for work and recreation.

5.3 Implementation and Cost of Draft Bus Priority Plan

As for implementation cost, this is estimated to be $33million for the schemes identified in the plan. This is expected to be reduced to $16million by the innovative use of dynamic lane lines. This will reduce the extent to which physical road works are required to accommodate a bus lane and will better utilise the existing carriageway. We are currently working with Land Transport NZ to agree a national standard for the deployment of this technology.

Each of the schemes investigated show a positive Benefit to Cost Ratio of between 0.2 and 22 based on existing bus use. While areas closer to the central city show higher benefits, where there are greater numbers of buses and passengers, there is still merit in establishing a network into the suburbs. To improve the viability of establishing the dedicated road space now, it is proposed that the under utilised road space be effectively used by allowing vehicles carrying a specified number of passengers to use the lanes.

Special vehicle lanes allowing buses and vehicles carrying the specified number of passengers, including taxis, are called “Transit Lanes”. This will enable the maximum benefit to be gained from any road space set aside until it can be fully utilised by buses. It is expected that any bus lane carrying less that 20 buses an hour would be designated a Transit Lane. The use of transit lanes will also allow the city a tangible means to promote and encourage ride sharing.

To use bus lanes in this way will require a good level of enforcement to ensure the benefits to buses are not eroded by a high level of non compliance sparked by allowing complying private vehicles to use bus lanes.

As all schemes have merit for implementation, the criteria listed below has been developed to help determine the proposed priority for implementation of schemes in the Plan. The criteria are:

- practical feasibility of introducing the priority measure
- projects which give the greatest travel benefit to the most people according to a ranking system
- addressing known constraints and problems in the road network
that the impact the scheme will have on the community is manageable.

Based on this the proposed Implementation Plan will see detailed schemes developed in the following order:

- the central city followed by radial routes that feed the central city
- the growth spine, taking in routes to Newtown and Kilbirnie in the south and Johnsonville in the north
- remaining key suburban routes

It is proposed to develop detailed schemes and consult on these in line with the priority order above and the council’s Engagement Policy. Each individual scheme will be brought back to Committee for approval prior to implementation. It is expected that the first schemes can be bought back to Committee for approval and implementation from 2007/08 onwards.

The rate of investment in the proposal and the pace of implementation are guided by the need to address areas of the city where current demand for road space has matched maximum available capacity especially during peak travel times.

The objective is to arrest further congestion deterioration but improving the road space efficiency through these measures. If the equivalent of annual growth in travel demand was directed through to public transport instead of onto private vehicles the levels of service enjoyed through our transport network will be maintained for private vehicles and improved for public transport.

Priority will be given to schemes in the CBD area where the benefit/cost ratio in some routes (B/C) is as high as 22. This indicates that a successful scheme will provide significant economic and travel benefits for the community. According to our estimates the proposed level of investment to address these areas is appropriate taking into consideration design, consultation and implementation parameters. However the proposal and resulting schemes will be closely monitored in parallel with measured levels of congestion. In the event that an accelerated or modified programme is found to be required, this will be brought back to the Council for consideration.

Key indicators for the deployment of the schemes will be;

- congestion for buses
- known constraints in the road network
- predicted constraints as the result of development growth
- success in influencing mode shift, either to buses or ride share
Complementing the bus priority work will be work on bus shelters and park and ride facilities. It is also expected that the Bus Priority Plan will link closely with the development of plans for parking, walking and cycling.

We also expect the Bus Priority Plan to benefit from work by the GWRC to increase bus service coverage and frequency. Some indication of this is given in their Passenger Transport Plan and has been reaffirmed in recent discussions with GWRC officers.

Stagecoach are also supportive of the plan and have pledged, as bus operators, to improve passenger comfort by ongoing investment in modern fleet. They are also committed to providing the trained drivers and appropriate fleet numbers to match any initiatives by the GWRC to increase service coverage and frequency.

For further expansion of the points above, a summary of the draft Bus Priority Plan report is attached for further information.

6. Conclusion

The demand for people to travel in and around Wellington City will continue to grow. This is putting increasing pressure on the roading network which is near or at capacity. Road building will not address the shortfall in demand and therefore further capacity needs to be extracted from the existing system. The most effective way to gain further efficiency is to move larger volumes of people in less space. An accepted, short term and cost effective method of achieving this is to move more people by bus.

To accommodate buses so that they themselves are not caught in congestion requires the implementation of bus priority measures such as bus lanes. These can be largely achieved at the expense of parking, rather than on road space dedicated primarily to the movement of vehicles. While this will impact heavily on business and residents along bus routes the inconvenience can largely be confined to peak travel periods.

To justify taking this road space and to make the best use of it, where there is currently not enough buses to do so, it is proposed to allow vehicles, including taxis, carrying a specified number of passengers to use it. This will promote ride sharing while supporting priority for buses. Bus lanes will also provide for cyclists, giving riders a degree of priority.

Bus priority measures will allow the most efficient use of the existing roading network to meet the city’s immediate and future travel demands. This will be complimented by both the Greater Wellington Regional Council providing increased service coverage and improved service frequency and the bus operators improving passenger comfort. Wellington will then have a real alternative travel choice.

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1) Strategic Fit / Strategic Outcome
The Council’s own transport strategy, which is based on supporting wider city objectives, has as one of its key five tasks:

- The development of passenger transport systems as the main means for the movement of people along the urban development strategy growth spine.

This is to be achieved within the overall goal for Wellington’s transport network to support the economic, social, cultural and environmental well being of its citizens. The bus priority plans directly supports three relevant outcomes:

- More liveable – Wellington will be easy to get around, pedestrian friendly and offer quality transport choices;
- More sustainable – Wellington will minimise the environmental effects of transport and support the environmental strategy;
- Better connected – Wellington will have a highly interconnected public transport, road and street system that supports its urban development and social strategies.

More specifically the pertinent initiative to achieve these outcomes for public transport is:

- A seamless passenger transport system along the growth spine including bus priority measures on all main arterial routes to and through the central area.

This has culminated in one of the transport priorities in the next three years being for public transport to:

- Improve the performance of the city’s passenger transport system though bus priority measures.

2) LTCCP/Annual Plan reference and long term financial impact
The project is contained in the Council Plan # CX492. Capital expenditure is expected to be in line with that budgeted in the LTCCP.

3) Treaty of Waitangi considerations
No issues identified

4) Decision-Making
The report seeks endorsement of the benefits and direction to be taken in the development of future bus priority schemes.

5) Consultation
a) General Consultation

Comments have been sought from The Greater Wellington Regional Council and Stagecoach on the proposed plan as they are expected to contribute to the collective implementation of any future schemes. Their feedback is covered in the body of the report. It is proposed that consultation on specific bus priority schemes be carried out with the community as these are developed.

b) Consultation with Maori

No consultation carried out to date

6) Legal Implications

None identified at this point.

7) Consistency with existing policy

The report is consistent with existing WCC policy.