

Brisbane, Australia - HOV Metropolis?



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Abstract

Brisbane is a thriving subtropical metropolis of 1.7 million people on Australia's east coast. It features a diverse yet fragmented transportation system currently undergoing both significant stress and rapid upgrading. High Occupancy Vehicle (HOV) lanes have been implemented over the past two decades on selected arterials but the stage is being set for a major expansion of the region's HOV program. The wide range of HOV projects and the planning context in which they are emerging will be of interest to international HOV practitioners.

Specific aspects of the Brisbane experience addressed include:

- X Arterial HOV and Bus lanes: operational experience and lessons learned
- X South East Transit Project: state-of-the-art Busway + freeway HOV lane project
- X Freeway HOV lanes: 2+ vs 3+ vs 4+ issues
- X Brisbane HOV Network Study: an arterial network that makes sense
- X Integrated Regional Transport Plan: the pro-transit big picture
- X HOV Enforcement - the quest for success
- X HOV Problems - from the familiar to the unique
- X International HOV Experience - what's applicable, what's not

The author is able to provide a comprehensive overview of the Brisbane situation with regard to the interests of international practitioners. He has been active in the North American bus / HOV sector for many years, and is currently working in Brisbane on several of the region's major HOV initiatives.

1. Brisbane – Setting and Transportation Context

The aim of this report is to take a guided tour through the HOV scene in Brisbane, Australia.

Brisbane is a modern growth-oriented city on Australia’s East Coast, at the hub of a region with a population of 1.7 Million. The 2% average annual growth rate is fuelled by both immigration and an influx from elsewhere in Australia.



Brisbane, after Sydney and Melbourne, anchors Australia’s third most populous region.

As capital of Queensland, Australia’s second-largest state, Brisbane and its surroundings take up half the state’s population. It has no real rivals - the next largest city in Queensland outside the Brisbane sphere of influence is Townsville, at 120,000. And past that, there are a few more centres and lots of open space - Queensland runs 2000 km

north to south and 1500 km east to west!



Physically, Brisbane lies on a coastal plain, interrupted by some low rounded hills from a volcanic past. The winding Brisbane River is navigable but ocean-going vessels are restricted to piers near its mouth. The river pours into Moreton Bay, a large shallow basin protected from the open ocean by a string of barrier sand islands, which are among the world’s largest.

The heart of the city lies some 10 km inland, cradled in one of the bends of the river, and is surrounded by some hilly terrain.

The subtropical climate is very pleasant, with daytime highs in the 20 to 30 degree range all year round - somewhat akin to that of Miami. The summer can be very humid, with periods of heavy rain. The suburbs sometimes experience a light winter frost but the city has never seen snow.



There is a ring of suburban centres, usually anchored by regional-scale shopping malls, at about a 10 km radius from the CBD. These tend not to have dense office or residential development; they are strictly commercial. There are no “Edge Cities” on the American model; the urban area simply sprawls until it fades into large-lot rural properties.

The Australian assumption that everyone owns a home manifests itself in Brisbane in vast areas of low-density residential development. There is little apartment living except for

singles or urbanites. As a consequence there is little densification around transport hubs or other forms of transit-oriented land use.

Brisbane is very much a city of neighborhoods; while many such areas have long since seen their heyday come and go, it is still possible to rely on your local “main street” or shopping centre for most needs. Some are being revitalized.

It is not a heavy industrial town; warehouses dominate instead. They are concentrated around rail and airport hubs, fairly well segregated from residential lands.

The obsolete industrial areas surrounding the CBD have undergone a startling transformation in the last twenty years. The nightlife scene of Fortitude Valley is attracting residential redevelopment projects, and World Expo ‘88 saw the entire South Bank of the river across from the CBD get cleared. It has become a superb urban park - complete with sandy saltwater beach - as well as the State cultural centre (museum, gallery, library, etc.). The revitalization is stretching further into West End, where a wonderful urban mix continues to evolve, just minutes from the CBD.



Brisbane spreads both north and south along the coast and inland to the established cities of Ipswich and Toowoomba, which are evolving into bedroom suburbs to some extent. Sprawl is limited only by substantial forest and wetland reserves.

Some 70 km to the south is the booming Gold Coast, home to 300,000+ people and the country’s greatest concentration of high-density development in the apartments and resorts along the ocean. There is no break in the development along the Pacific Motorway between Brisbane and the Gold Coast.

The Sunshine Coast 100 km to the north of Brisbane is a bit further away and less-developed, but development is creeping in to fill the gap.

2. Brisbane Transportation Situation



Brisbane has a rather skeletal **freeway** system; the **Pacific Motorway** is a 6 - to 8-lane freeway joining the CBD to the Gold Coast in the south.

The **Bruce Highway** starts in the northern suburbs as a four lane freeway and heads north to the Sunshine Coast and some 1,700 km further to Cairns.

The four lane **Gateway Motorway** skirts eastern Brisbane as a bypass for through travel; it also picks up local trips because it is one of the few river crossings (via a toll bridge).

The **Ipswich Motorway** and the **Centenary Highway** are also four lane freeways; they pick up commuter trips from the west but stop a few miles short of the CBD.

The **Logan Motorway** is a southern bypass, and is a four lane toll road.

The **arterial** system is extensive but for reasons of history and topography it is both irregular and discontinuous. It is not connected particularly well with the freeway network. Both the City and the State have arterial responsibilities.



The historic backbone of the public transport system is the 6-line **commuter rail** system. This electric system runs half-hour service all day, with 10 minute frequencies on key routes in the peak. A private extension to the Airport is under construction. The rail system operates on a standalone basis and is poorly integrated with the bus services.

One of the greatest flaws in the entire Brisbane transport scheme is the lack of river crossings - there are only six road bridges in all - but political aversion to any new bridges has stalled the issue. One consequence is that central Brisbane is served by a successful high-speed commuter catamaran run as well as by several more traditional cross-river **ferries**.

Another recent initiative, to reintroduce **Light Rail** to the streets of the CBD, stirred up a lot of interest but ultimately failed to make its economic and ridership case and has just been terminated. Brisbane once had an extensive tram network but it was ripped up in the 1960s.

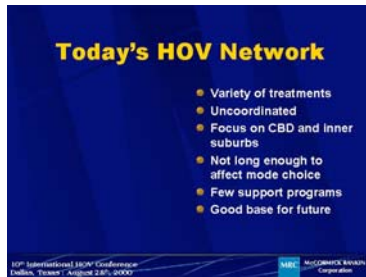
The City of Brisbane is almost unique in Australia in that it runs its own **bus operation**; elsewhere it is a state undertaking. Nevertheless, bus infrastructure such as terminals, park & ride lots, and busways are usually built by the state. Bus services in adjacent communities are contracted by the state; those buses run express into the CBD but have limited pick-up rights within Brisbane.

The rail system is also independent of the bus systems and there has historically been little effort aimed towards service **integration**; the state-led Integrated Regional Transport Plan has triggered a major effort towards overcoming this foregone opportunity with integrated fares, services, and facilities but there is a long way to go.

3. Brisbane HOV Scene

The HOV scene in Brisbane is an active, growing part of the regional transport picture.

3.1 Overview



Brisbane has implemented a wide range of **bus priority** measures over the past thirty years. They have primarily been opportunistic queue jumps or lane conversions, focused on inner city and inner suburban trouble points. Recent years have seen a few extended HOV (3+) lane treatments on suburban arterials hosting busy bus routes.

There has been little focus on **carpool** promotion or support programs to date - only priority parking in some City-owned CBD lots and a brief ridematching pilot project come to mind.

HOV projects have, to date, been developed in isolation; an **HOV network** strategy study been undertaken just recently.

Performance of existing HOV facilities has been adequate on a standalone basis, but rarely do travel time savings mount up to a great enough level to influence mode choice. Bus operators and enforcement agencies have not generally been involved in developing plans; most priority lanes still feature curbside bus stops rather than indented bus bays, for example. Violation rates for arterial T3 lanes are quite high, and police presence low.

HOV facilities to date have not required a great deal of money to build and operate; they have been designed to take advantage of opportunities. Consequently, there remain operational flaws in some of them, and signage and pavement marking is minimal. However, “cheap and reasonably effective” is still a better result than most cities can boast. Particularly noteworthy is that most of the 14 km of Bus and HOV lanes has been through lane conversion from General Purpose.

3.2 Bus Lanes



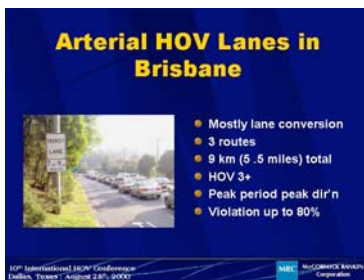
Central Brisbane features eight relatively short **bus lanes**, aimed at getting buses past congested groups of traffic signals and in to or out of the CBD. There are a couple of traditional city centre bus lanes as well, but they are so full of stopped buses during peak periods the City hardly needed to bother with putting a sign up discouraging other users.

All of the bus lanes have been low-cost low-impact opportunistic facilities, and most use the curb lane on one-way streets and leave at least two lanes for general traffic. They seem to have been slipped in over the years with a minimum of public fuss.

They only save a minute or two apiece, so existing bus lanes are not likely to have much impact on mode choice. They do help buses stick to schedule in the congested CBD. Violation is less of a problem than with the HOV3+ lanes; either the Bus Lanes are full of buses and are unattractive to violators, or they are clearly seen as risky facilities where a violator is easy to spot. There are operational problems, however, at intersections where heavy turning vehicle demand clogs the bus lane on its approach.

The Coronation Drive Bus Lanes, currently being implemented, are part of a \$AU20M job to widen and restructure a major arterial to a consistent five lane cross section, which will have a reversible centre lane and thus allow a curb-side bus lane in the peak direction during peak periods alongside two general purpose lanes each way at all times.

3.3 Arterial HOV Lanes



There are three arterial HOV (3+) lanes in operation in Brisbane, as of mid-2000:

- Lutwyche Road, 3.1 km long am peak approaching the city from the north
- Mains Road, 3.4 km long am peak feeding the SE Freeway 10 km from the CBD
- Kelvin Grove Road in the north west, 1.2 km pm peak outbound and 2.1 km inbound am peak

All were implemented as HOV 3+ in the 1990s through lane conversions on busy 6-lane routes featuring heavy bus volumes.

A fourth arterial facility is under construction - the 6 km long HOV lane on Waterworks Road in the north west was promoted as 3+ but resistance to the traffic and community impact has meant it will be implemented at 2+.

As is typical of arterial HOV lanes, scheduled enforcement is not adequate to keep violation rates down, particularly for lightly-used 3+ lanes.

3.4 Bus Queue-Jumps

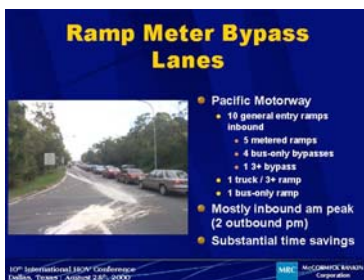


The first bus priority measures implemented in Brisbane were mainly simple queue jumps at selected inbound congestion points. A few feed the South East Freeway and others allow buses to sneak past general traffic on the approaches to a traffic signal.

There are a few other odds and ends in place - a couple of brief bus-only contraflow lanes in the CBD, a little one-way bus tunnel under the South East Freeway (recently superseded by the South East Busway), and some bus-only ramps on the South East Freeway (also now superseded).

These facilities came from a hodge-podge of programs - some were Brisbane City initiatives to help their Brisbane Transport buses along, others were on Department of Main Roads facilities, while Queensland Transport was sometimes able to contribute infrastructure funding as well. There are even occasional Commonwealth (national) funding programs which can be tapped in to. While each facility continues to function largely as planned, they do not act together nor were they planned in a coherent manner.

3.5 Ramp Meter Bypass Lanes



The South East Freeway is a constrained four- and six-lane facility which experiences severe inbound congestion for up to 20 km during the a.m. peak period. Outbound p.m. peak congestion is also extensive.

Ramp metering has been used for many years to manage entering flows so as to preserve an acceptable level of freeway operations. The Department of Main Roads controls both the freeway and several approaching arterials, and they have not been afraid to let substantial queues build on the arterials in order to keep the freeway moving.

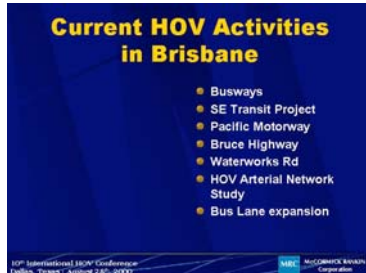
Main Roads does, however, have a policy of providing ramp meter bypass lanes for priority vehicles wherever there is a physical fit and there is a bus demand. Most are for buses only, although the one which links an arterial HOV 3+ lane to the freeway (pictured) is open to 3+ carpools. South of Brisbane, one ramp is open only to trucks and HOVs; in that case general purpose traffic has been excluded because there is not enough queue storage length to meter the ramp. The queues at metered ramps generate travel time savings of up to ten minutes for bypass lane vehicles.

The opening of the South East Busway will make most of the bus bypass lanes redundant. Though no decision has yet been made as to their fate, conversion to HOV 3+ use is an obvious opportunity, in concert with the freeway HOV lanes under construction and with feeder arterials.

The bypass lanes are rarely enforced but violation rates sit at a sustainable level - you have to be pretty brazen to regularly drive past dozens of queued vehicles and then merge in to the head of the queue in an ineligible vehicle.

4. Current HOV Activities

4.1 Key Projects



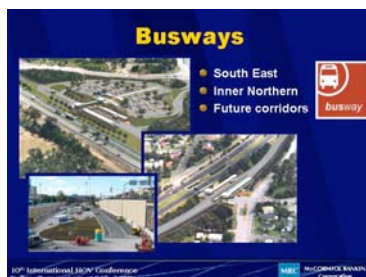
The HOV front in South East Queensland is an active one at this point. Following from the Integrated Regional Transport Plan there is substantial investment in transport infrastructure going on, with Public Transport and HOV facilities getting their fair share.

The flagship project is the upgrading of **the Pacific Motorway** corridor to eight lanes between Brisbane and the Gold Coast; this takes the form of a 43 km long freeway widening, creation of 20 km of HOV lanes, and a 20 km busway - a \$AU 1.5 billion undertaking in all. The freeway HOV lanes will be the first of their kind in Queensland and a lot is riding on their success. Similarly, Brisbane has staked its transport future on the busway system, so the **South East Busway** will be watched with keen interest as it takes its place in the region's transport system.

On the arterial side, the focus has traditionally been on bus priority and bus lanes, with the **Coronation Drive** "Tidal Flow" bus lane project the most significant commitment to that principle. City Council has not shied away from implementing HOV lanes on arterials if they make sense. The arterial bus lanes and HOV lane, however, are at a point where most of the "easy" ones have been implemented and some of the problems which have arisen need to be addressed.

The City and State governments are therefore collaborating on **an HOV Arterial Network Study**, to define planning principles, put forth design guidelines, and develop a network plan and implementation strategy for a coherent system of on-street priority to buses and carpools.

4.2 Busways Coming to Brisbane



Brisbane is implementing a set of **busways** on the Ottawa, Canada model. They will be two lane bus-only roadways on their own alignments, connecting bus stations and interchanges every kilometre or so.

The first one, through South Bank and along the Pacific Motorway, will open in stages between October 2000 and May 2001. Part of it parallels the new freeway HOV lanes, to open concurrently. A second leg extending northward from the underground CBD bus station is late in the planning process and will be implemented in stages over the next few years.

Once Busways have settled in and their benefits properly assessed, decisions will be made about if and how to move forward with busways or bus rapid transit in the four other corridors identified in the mid-nineties Busway strategy plan.

The busways are forcing a restructuring of bus services in Brisbane, which in turn will affect the need for bus priority on roads feeding busway stations and limit the role of parallel HOV lanes to supporting carpools only.

4.3 Pacific Motorway HOV Lanes



The centrepiece of the current HOV program in Queensland is the addition of HOV lanes to **the Pacific Motorway (South East Freeway)**, the state’s busiest roadway. Built together with the South East Busway and the Pacific Motorway widening to the south as part of a commitment to eight-lane the highway between Brisbane and the Gold Coast, the HOV lanes will extend 20 km through suburban Brisbane.

A buffer-separated design was selected, with 24 hour operation and designated zones for access / egress. Design principles drew from a review of world’s Best Practice, of which the California guidelines were most representative.

The project is under construction in stages, with 5 km opening at the end of 2000, another 7 km open in 2002, and the remainder to follow. The first stage parallels the new Busway while the rest functions as an extension of the Busway by allowing fast reliable bus travel to the southern suburbs. Consideration is being given to providing direct bus-only or HOV ramps between the freeway HOV lanes and two bus terminals and a park & ride lot. The freeway is reasonably congested; HOV lane users will expect travel time savings in the 5 - 10 minute range during peak periods, along with an end to the frustrating variability in travel times.



The HOV lanes on the Pacific Motorway do not extend to the city centre; the 8-laning commitment does not apply to within 10 km of the CBD since the freeway is already six lanes from there in, and the busway makes up the other two lanes. This dramatically reduces the carpool travel time savings available and hence the mode shift incentive. For buses it is not an issue since they have a free run in via the parallel busway.

There is some reticence to pursue the issue because promoting downtown-oriented carpool travel appears contrary to promoting bus use in the same corridor (especially when such a major investment has just been made in the Busway).

This leaves the HOV lane terminating in a congested zone at Mains Road. It also has a big impact on the vehicle eligibility assessment, because adding a lane of two-occupant carpools to the bottleneck will have a dramatic impact on congestion. This almost forces the HOV lane to be restricted to 3+ to protect the downstream operations. However, 3+ volumes are so low (particularly once the buses have been shifted to the busway) that the whole HOV project is at risk of becoming unsustainable technically and politically.

Compounding this situation is the immaturity of the HOV support program in Queensland. As the state's first major HOV initiative, the South East Transit Project does not have a built-in set of park and ride lots, ridesharing promotion, employer-based measures, guaranteed ride home, or any of the other contributors to success. The enforcement of freeway HOV lanes is also new to the state.

It will be fascinating to see how this all plays out over the next couple of years!

4.4 Other Freeway HOV Prospects



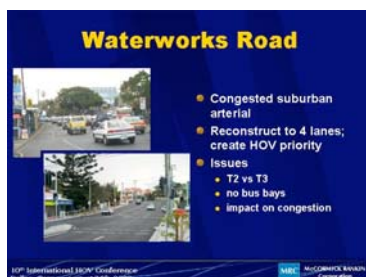
The Department of Main Roads has assessed the HOV potential of most of the Brisbane-area freeway network, and is protecting for future HOV lanes in its planning.

The 43 km of **Pacific Motorway** between Brisbane and the Gold Coast to the south was recently subject to a \$AU750M upgrade to eight lanes; while HOV lanes were considered, the eight-laning should take care of today's traffic woes for some time. Furthermore, due to the high proportion of vacation / recreational traffic, the peak period is actually on weekends and the lane would have to operate at 4+ if it were to operate without congestion! As the South East Transit Project is completed, the portion of the Pacific Motorway closest to Brisbane would be a candidate for lane conversion during weekday peak periods.

The **Bruce Highway** to the north of Brisbane is a four lane freeway which requires upgrading; current plans are to upgrade to six general purpose lanes, and reserve any subsequent widening for HOV purposes.

The two toll freeways serving Brisbane, the **Logan Motorway** and the **Gateway Motorway**, show some long-term HOV potential. It is unclear as to whether HOV lanes per se would ever be implemented on those facilities, or whether HOV priority would be granted via the toll mechanism. HOV queue bypasses at toll plazas are an obvious opportunity.

4.5 Waterworks Road – Arterial HOV 2+!



Waterworks Road funnels traffic from the west and northwestern suburbs towards central Brisbane on a roadway that varies between two and five lanes in width. It

passes through several streetfront commercial areas as well as through established residential zones, on a hilly and winding alignment.

The route suffers from severe congestion during peak periods, particularly in the peak direction, and hosts up to twenty buses per hour. Planned improvements take the form of selected widenings to create a continuous four lane cross section.

Brisbane City Council's experience with arterial HOV lanes combined with the principles of the regional transport plan led Council to proposed HOV 3+ lanes on the improved segment of Waterworks Road. The widening plan was controversial in the community; HOV lanes were seen as a stalking horse for adding general purpose traffic capacity in the constrained corridor.

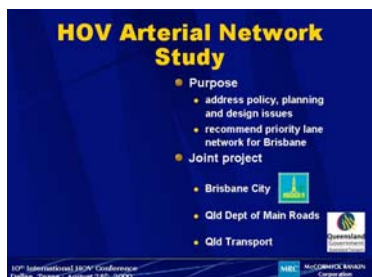
Operationally, HOV 3+ proved to be problematic, since it implied removing non-HOVs from the stand-up lanes at signalized intersections in order to give buses and the few 3+ carpools "head-of-the-queue" treatment. Not all intersections have storage for turn lanes either, and Queensland's "no turn on red" rule also hampers HOVs' queue-jumping abilities. The net travel time impact for all road users would be worse than doing nothing at all.

The compromise is an HOV 2+ lane, which evens out the queues at signals, produces a well-used lane which is accepted in the community, and still provides a reasonable level of priority for HOVs. It is now under construction.

A critical unresolved issue is the lack of bus bays on Waterworks Road, which will result in stopped buses blocking what is supposed to be the priority lane.

4.6 HOV Arterial Network Study

Brisbane City Council, Queensland Transport, and the Queensland Department of Main Roads have recently cooperated on a wide-ranging HOV Arterial Network Study, undertaken by McCormick Rankin and local firm PPK Environment and Infrastructure.



The aim of the study was twofold:

- identify general policy / planning / design issues associated with priority lanes, be they Bus Lanes or HOV Lanes, and recommend practical solutions / approaches for Brisbane; and
- identify, analyze, and recommend priority treatments (if applicable) on arterial roads in Brisbane, the collective outcome representing an HOV Network Plan for Brisbane.

Issues such as the role of arterial HOV lanes in the Integrated Regional Transport Plan, road widening vs. lane conversion, 2+ vs 3+ vs Bus-only designation, the type of lane, operating hours, individual treatments vs. region-wide consistency, etc. were addressed in

the Network Study. The State agencies were particularly interested in establishing an analysis methodology that was transferable to other areas within Queensland, while every party had a great interest in the route-specific plans and associated implementation issues and costs.

There were three major elements to the study, therefore:

- setting the basic policy and design ground rules;
- developing functional plans for HOV priority and alternatives on 200 km (125 miles) of arterial and freeway; and
- developing and applying a methodology to screen and analyse those corridors (and options within corridors) to generate a set of recommendations for implementation over time.

The policy issues were addressed by applying “best practice” from around the world to the specific Brisbane situation. The full range of potential arterial treatments was considered, and support program elements were outlined.

Various network strategies were considered, and a “bottom up” approach selected, building the network from its individual corridors rather than a “top down” effort to fit a standard strategy across the city. The “top down” strategy worked in Toronto, where a relatively uniform arterial grid provided some consistency, but Brisbane’s fragmented road network meant that each corridor had to be assessed on its own merits.

This methodology was put into a four-step process:

- 1) assess all corridors and select the most promising for closer investigation
- 2) develop and recommend reasonable HOV priority measures for each corridor from (1)
- 3) combine routes and priority measures to produce a network concept
- 4) reassess individual corridor recommendations in light of the network context.

A standard menu of analysis factors was defined at the start, with the application of the factors varying according to the level of analysis. The factors covered a broad range of HOV issues, including HOV demand, traffic impact, planning goals, community context, operations, cost-effectiveness, and bicycle impact.

At the preliminary screening level in considering some 400 km (250 miles) of arterial road, for instance, “HOV demand” was represented by “bus per hour in the peak hour peak direction”. This limited the data requirements yet allowed a “level playing field” for comparing corridors.

Once the specific treatment options were developed, the second-tier assessment used bus patronage counts, route maps, carpool counts, mode shift estimates from traffic impact analysis, and growth projections to define demand and allow a comparison of alternatives. The “HOV Lane” treatments developed for all of the 200 km of short-listed corridors were based on field review and engineering judgement; determination of whether they would most appropriately operate as Bus-only, 3+, or 2+ was left to the

analysis process, except for a few bus-only opportunities which emerged in some locations.

The preliminary results suggest an ultimate HOV network of in the order of 150 km of arterial and freeway (with selected additional corridors not within the study scope likely to bring the full extent over the 200 km mark in time). Most arterials ended up at 3+, to strike the necessary balance between bus priority and operational integrity. There are some viable 2+ arterial candidates, though. They are mainly lane conversions since there is neither the opportunity nor the rationale to widen arterials in most cases. The network absorbs all of the existing HOV lanes and facilities.

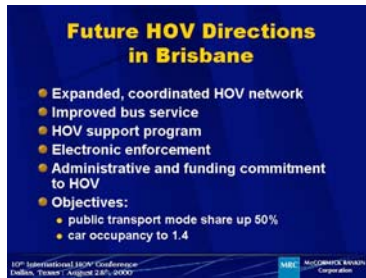
All but one of the freeway segments emerged as added-lane 2+ recommendations; the exception suffers from significant downstream constraints which mitigate against adding substantial traffic to the area (this may be resolved over time).

The recommended network now goes into the approvals stage, and hopefully absorbed (along with the planning guidelines and assessment methodology) into the ongoing implementation programs of the respective proponents.

Figure 1: Recommended HOV Network

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5. The Future for HOV in Brisbane



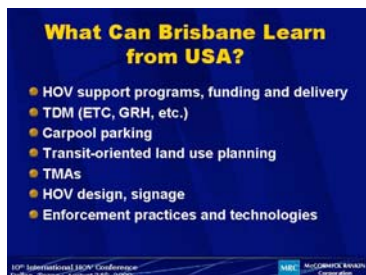
Brisbane stands on the threshold of a momentous leap into the unknown. The Transport Vision has been articulated, and it includes substantial reliance on shared-ride travel, which in turn implies a much-expanded HOV network and a coordinated effort to support HOV use. A substantial increase (simultaneously, and in terms of person-kilometres of travel, almost equivalently) in both public transport mode share and private auto occupancy rate is to

be the result.

Aside from the physical manifestation of HOV lanes on arterials and freeways, there are significant opportunities in the less-visible areas of interjurisdictional coordination, electronic enforcement, and promotion of a “leave your car at home” ethos among commuters.

The actual HOV market in Brisbane is only poorly understood at this point, but the region won’t be getting very good answers until there is more infrastructure on the ground and greater awareness of transport issues among the populace. In that sense, the infrastructure horse has to be put ahead of the marketing carrot, which in itself requires a considerable political and executive commitment to the idea.

The Integrated Regional Transport Plan, the Pacific Motorway HOV lanes, the ongoing work by City Council to provide bus priority on the streets, and the endorsement of the Arterial HOV Network Study provide a solid indication of the level of support present, and that commitment presages a potential Golden Age for buses and carpools, and a transformation of South East Queensland’s transport situation.



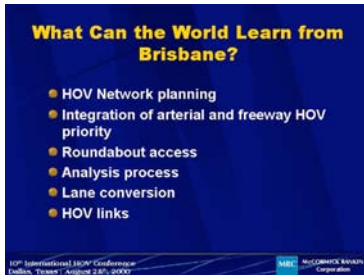
Concerns remain, however. Brisbane has not yet come to grips with two key aspects of HOV:

- the critical importance of HOV support programs; and
- the ability to control, or at least influence, land use to be less auto-reliant.

There is considerable fear that bus lanes and HOV lanes are being developed and applied simply as infrastructure, while little attention is paid to the support programs that really shape the market demands. Things like vanpooling, ridematching, Guaranteed Ride Home, preferential parking for carpools, and the whole notion of the public sector influencing private sector participation in transport (via Transportation Management Associations, Employee Transportation Coordinators, transportation allowances, etc.) are far behind the “best practice”. It would appear that such programs will be necessary for the Brisbane HOV Network to be sustainable.

Brisbane has been somewhat of a boom town over the past couple of decades, and development has been guided only loosely with little overt shaping of the land use - transport relationship. Accordingly, the transport system has suffered and will continue to be hostage to a low-density development ethos.

In addition, Brisbane has a long way to go yet in terms of signage, pavement marking, and highlighting the HOV lane on the road. Another area Brisbane is actively pursuing (and looking for guidance overseas) is the use of electronic enforcement for bus lanes and HOV lanes.



Brisbane does, however, have an enviable track record in simply getting on with the job. A great deal has been accomplished over the past two decades. Opportunities have been seized to implement bus and carpool priority with little fanfare or outcry.

The effort to create the Integrated Regional Transport Plan, and the subsequent interagency cooperation in developing a true regional HOV strategy, is admirable. Arterial HOV lanes can never be effective in inducing modal change without a network plan; Brisbane is one of the few cities in the world to develop such a plan. In doing so, a step-by-step analysis process was used to work from the “top down” from network principles to corridor-specific treatments and back up a coherent network plan.

The network development process clearly showed the value of a “horses for courses” approach as opposed to applying uniform region-wide standards for eligibility, layout, etc. It also yielded some innovative treatments at Tee intersections, roundabouts, and complex intersections.

In Brisbane, it is clearly recognized that getting the bus to the busway reliably and quickly is nearly as important as building the busway itself; similarly, carpools can gain as much advantage at a single ramp meter bypass lane as over several kilometres of expensive freeway HOV lane. Coordinating arterial priority treatments with high-capacity trunk routes is a critical part of the HOV network plan.

6. The Australian HOV Scene – A Snapshot



Australia's capital cities have almost all pursued bus priority measures of some sort, and the two largest cities, Sydney and Melbourne, have dabbled in the carpool area as well. In no case, however, can there be claimed to be an HOV network built or planned.

Sydney, with its legendary traffic congestion, has been fairly aggressive in establishing bus priority measures and bus lanes; most six lane arterials there either have bus or carpool lanes or have been considered for them. Unusually, rental cars are allowed in HOV lanes in Sydney! There is a 90 km (55 mile) long network of busways under development in Sydney. There is a stretch of freeway median busway in use as well, with an island bus stop. Arterial priority lanes are poorly enforced, have few bus bays, and suffer from violation.

Melbourne's public transport system is heavily reliant on trams (streetcars) and there is thus less need for bus priority than in most cities. There is one 3 km (2 mile) stretch of freeway shoulder bus lane (including an awkward weave across a major entry ramp) and a couple of arterial bus lanes in the city.

Perth's Kwinana Freeway has a lengthy bus lane which is being upgraded to busway standard; there are a few other bus priority treatments in town, but no carpool promotion.

Canberra has a busway with few buses, an arterial median-side bus lane, and a kerbside arterial bus lane which changed to T3 upon implementation.

Adelaide has dozens of bus queue-jumps and the famous guided busway, but no carpool facilities.

Gold Coast, south of Brisbane, has implemented some arterial bus lanes and more are in the works. Innovative coloured patches highlighting the lane may catch on elsewhere.

While there are national guidelines for Preferential Lane signage etc., they only cover the basic situations and in practice each State applies a mix of the national standards and local practices.