

WESTON CREEK COMMUNITY COUNCIL

- Your Local Voice -

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An open letter to all residents of Canberra regarding the proposed Gungahlin to Civic Tramway

The Weston Creek Community Council (WCCC) is a non-political, voluntary community lobby group for the residents of Weston Creek. The Council was founded in 1991.

The WCCC believes that adequate and cost-effective public transport should be in place for Gungahlin residents, just as it should be in place for all residents of Canberra.

The Gungahlin to Civic tramway proposal is projected to absorb \$80-\$100 million of public monies which would otherwise be available for services/facilities that would benefit the whole Canberra community. This substantial expenditure translates to \$800-\$1,000 for every household in Canberra. Due to the scale of the projected expenditure (just less than one third of the 2002-2003 ACT budget expenditure for ACT Government schools) the Weston Creek community believes that all Canberrans should be able to comment on the appropriateness or otherwise of this major expenditure.

Members of the WCCC have conducted extensive research of publicly available information concerning the advantages and disadvantages of tramway systems and the attached discussion paper has been prepared to evaluate this information. It is our belief that there are other more cost-effective transport systems than the proposed tramway.

The WCCC invites all residents of Canberra to review our paper and make their own judgement on the proposal. Any comments on our paper can be forwarded to the WCCC Chairperson at one of the above contacts.

Yours faithfully

Jeff Carl
Chairperson, Weston Creek Community Council

The Weston Creek Community Council's Discussion Paper on the Proposed Gungahlin to Civic Tramway

SUMMARY

The Weston Creek Community Council (WCCC) welcomes the Inquiry into the proposal to improve public transport to Gungahlin and in the rest of Canberra. Our primary concern is that the Gungahlin tramway proposal will prove to be more costly than buses in the long run. Its costs are likely to be spread across the entire Canberra community and affect Canberra's entire public transport system. If this happens it will mean that some people paying for the tramway will not get any benefit from it. Weston Creek residents could have no objection (and no right to comment) if, for example, a special rate was struck on Gungahlin residents to pay for the tramway. This is unlikely to happen. The proposal in fact diverts the substantial profits that the ACT Government makes on the sale of land in Gungahlin to finance a narrowly-focussed public transport scheme rather than use the profits to finance projects that benefit the entire Canberra community.

The WCCC firmly believes that a dedicated bus system, run with all of the priorities and operating regimes ascribed to the tramway system, will be superior to the tramway system and can be built at a very much smaller cost. Investing in a new bus system will improve usage of existing infrastructure and result in a much more flexible public transport system which can be readily altered to take advantage of new technologies as they become available. Investment in a fixed-rail system means being tied to the system until it has been fully amortised which would take many years.

Further, because of the transport difficulties the tramway poses for regular uses it is clear that the benefits are limited only to those who can travel from Gungahlin and the points in between to Civic. These numbers are not likely to be sufficient to justify the proposal.

As far as we are aware there is no evidence that the present bus arrangements are deficient (except for the traffic congestion caused by the lack of a major road access to Gungahlin) or that public transport demand will grow to any large extent in Gungahlin in the near future. Nor are we aware of any study that shows that most commuters from Gungahlin want to travel only to Civic. If most commuters merely pass through Civic on their way to their final destination, than the proposed tramway will be a disincentive. At present Canberra is growing at about 3,000 people a year or less than the national average in percentage terms. It is unlikely that ALL this growth will be located in Gungahlin. On this basis even if the decision is made to eventually install the tramway it is clear that it is not required in the immediate future.

Irrespective of the Inquiry's outcome, the Weston Creek Community Council believes that adequate and cost-effective public transport should be in place for Gungahlin residents, just as it should be in place for all residents of Canberra.

INTRODUCTION

This paper is designed to briefly raise some of the important issues to be considered in any Inquiry into whether the ACT Government should sanction the construction of a tramway from Gungahlin to Civic. This subject is a very complex one and we can merely mention some of the issues. A short bibliography has been included so that those interested can follow up on our comments which have been drawn from publicly available material.

The WCCC will be making a more detailed submission on public transport options to the Public Transport Futures Feasibility Study in due course.

REASONS FOR ENTERING THE DEBATE

The WCCC believes that the impetus behind the tramway proposal is not so much about introducing a new kind of public transport for Gungahlin but rather as a way for builders and developers to gain early access to high-density housing development sites in Gungahlin. If this is the case then questions arise as to why a tramway is necessary when other transport options exist and whether a tramway is in the best interests of all ACT residents.

A representative of the MBA Company (now part of The Village Building Company), a land development company and supporter of the tramway proposal, said at a meeting called to consider the proposal on 13 February 2002, that the tramway could be financed from the sale of land in Gungahlin which had been set aside for high-density housing development. At the time of writing there are a number of high-density development projects under way in Canberra including the very large Foreshore development at Kingston. We have no evidence to suggest that, even with the tramway, Gungahlin's high-density development would be able to compete with the Kingston development. Further, there is also no evidence to suggest that the projects on the drawing board at Turner, Lyons and Kingston would not be able to satisfy the demand for high-density living in Canberra. Similar comments apply to the additional high-density housing developments presently proposed as part of the draft Woden Town Centre Master Plan.

Allowing the tramway to proceed in Gungahlin leaves the way open for other areas of Canberra to apply for similar projects to encourage development within their boundaries. The tramway supporters are saying that high-density development may not occur in Gungahlin in the near future unless the district receives some form of extra assistance. If this is the case then we have to ask if this extra assistance is warranted.

The WCCC has a further concern in that the proposal to build a tramway between Gungahlin and Civic means that the delivery of public transport to Gungahlin will be significantly different to that provided in other areas of Canberra. This raises questions as to whether the proposed tramway is the best way to provide public transport to Gungahlin. This paper explores this issue further. The Weston Creek Community

Council believes that adequate and cost-effective public transport should be in place for Gungahlin residents, just as it should be in place for all residents of Canberra.

THE BASIC PROPOSAL

The WCCC understands that the proposed tramway will be of dual line construction running from the main Gungahlin centre to Civic making use of vacant land and the median strip in Northbourne Avenue. There is also another proposal that calls for single line construction with passing loops. Supporters of the tramway have said that the capital cost could be between \$80 million and \$100 million for the dual line and about \$40 million for the single line proposal. Both these amounts of money are very large compared to the size of the ACT budget. (Note: All cost estimates contained in this discussion paper are in Australian dollars.)

Some groups, such as The ACT Greens, the North Canberra Community Council and Planning the ACT Together, have proposed alternative routes for the tramway (via Belconnen for example) and have suggested that the line be extended to Tuggeranong roughly following the old NCDC 'Y' Plan. However, we know of no firm plans to extend the tramway beyond the direct Civic to Gungahlin route. There was no discussion at the February meeting about the line being extended beyond the main Gungahlin centre into other Gungahlin suburbs.

The WCCC has based our remarks on the original proposal which is to provide a limited one-route tramway. The representative from MBA Company, while supporting the Gungahlin proposal, said at the 13 February meeting that he was not in favour of extending the service to south Canberra.

Any decision to provide a very different form of public transport requiring large outlays from public funds should be very carefully scrutinised. The decision should be based on the best information available and be justified on the basis that it can be objectively shown that it is the best public transport solution for Gungahlin residents compared to alternative public transport options. The selected form of public transport must also show that it is the most cost-effective solution so that other residents outside Gungahlin are not disadvantaged by the provision of a more costly than necessary form of public transport. This view is based on the fact that all public transport in the ACT is subsidised out of public funds.

On the best information available to the WCCC, we believe that the tramway is not the most economic public transport solution for Gungahlin and we outline some of our reasons below. There are other more appropriate public transport systems that can be put in place which are more cost effective, achieve the same alleged benefits of the proposed tramway and are just as appropriate for Gungahlin residents.

WHY THE TRAMWAY IS NOT THE BEST PUBLIC TRANSPORT SOLUTION

1. There is absolutely no question that the capital costs of electric tramways are much more than competing bus transport solutions. Hensher¹ has estimated that the costs of installing busways range from about \$100,000 a kilometre (where the busway is a reserved corridor on an existing road) to \$1 million a kilometre (where the busway is on a specially widened road) to \$1.5 million a kilometre (where the busway is a dedicated road reserved for the exclusive use of buses). Hensher¹ also suggests that the costs of installing tram track are on average \$3.4 million per kilometre (in an existing street) to \$2.1 million per kilometre (in a specially widened street) and \$2.02 million per kilometre (on a specially dedicated right of way). Both of the estimates for dedicated rights of way ignore land acquisition costs, and since the Gungahlin tramway proposal uses existing transport corridors, these figures could still be valid when adjusted for inflation.
2. The capital costs of tramcars are much more than for town buses. Our understanding is that each new town bus costs between \$500,000 to \$800,000, while a new single car (two-bogie, 4 axle) tramcar costs about \$1.5 million to \$2 million and from \$2 million to \$4.0 million for an articulated (three bogie, six axle) tramcar². However, comparing relative costs is more complicated than it looks because generally speaking the capacity of a tramcar is usually more than a bus. Larger capacity vehicles usually result in reduced service frequencies as it is much more economic to run vehicles close to their capacity. Running the tramcars below their optimum capacity raises their capital cost compared to buses and increases the tramway's running costs.
3. Supporters of tramways often point to reduced maintenance costs and longer life of trams compared to buses. While this argument often has merit it ignores the costs of maintaining the tracks and the electrical overhead which takes away any advantage in reduced vehicle maintenance and depreciation.
4. The reliability of the tram service is often not as good as that for buses despite claims to the contrary. The argument that tramway enthusiasts usually put forward is to compare buses running on ordinary streets with trams running on an exclusive right of way. This is clearly an unfair comparison. Disruptions to a tram service rarely come from vehicle break-downs, although, when they occur the disruptions are severe because usually the whole system stops until the breakdown is dealt with. It is much more difficult to retrieve a broken down tramcar than a broken down bus. A broken down bus only affects the passengers in that vehicle and not other buses which can easily pass the broken down bus. It is also easier to rescue people from a broken-down bus by transferring people to passing buses but this is very difficult on a tramway especially when the whole system has stopped.
5. Stoppages in a tramway service are more likely to come from breakages in the overhead system. Not only does the overhead have to be inspected frequently to make sure that the proper clearances etc are being maintained but a special repair

crew has to be kept on-call to repair the overhead when breakages occur. This adds to the running costs of tram services. Even where the tramcars operate on their own right of way the overhead can be snagged by tall motor vehicles where the line crosses streets and the like or the overhead can be damaged by storms and winds.

6. Derailments of trams occur from time to time even in the best-run tramway systems and specialised equipment is needed to re-rail the vehicle. The equipment needed to tow broken-down and accident damaged buses is much more readily available and differs little from the equipment needed to tow trucks and other heavy vehicles. Further, a broken down bus can be removed from the busway and towed back to the depot using existing streets and roads. Nobody has suggested that the tramway proposal will completely replace bus services, and because Canberra now relies on buses for its public transport, the likelihood is that ACTION already has the necessary recovery equipment.
7. When there is a severe disruption to a tramway service there is usually a call for the service to be carried out by replacement buses. This raises the question of why we don't simply rely on buses in the first place. If the tramway needs replacement buses from time to time do we maintain a special fleet and use them only when required (very costly) or do we take them off other routes thus spreading the tramway disruption across the bus network as well? By contrast a broken down bus or one that has been involved in an accident is not such a severe disruption and its effects are not as wide-spread.
8. The single route proposal will mean that any maintenance facilities and installed equipment will have to be amortised over just the one route thus increasing unit costs. (The nearest tramway maintenance facilities are in Sydney, Melbourne and possibly Bendigo which are quite some distance from Canberra and require the transport of vehicles to and from these facilities.) The proposal outlined at the 13 February meeting also showed an initial requirement of only four tramcar sets to operate the projected network. This means that the total development costs of (say) \$80 million need to be amortised over these four tramcars.
9. Several speakers at the 13 February meeting said that the tramway will rely on "feeder" bus services to raise the number of passengers needed to justify the tramway service. If the feeder bus service is introduced it could have the following consequences:
 - (a) People living beyond the Gungahlin tramway terminus would have to change from a bus to a tramcar (inwards to Civic) and from tramcar to bus (outwards from Civic) to finish their journeys;
 - (b) People who want to travel beyond Civic will also have to change to a bus (This could mean that some people will have to change twice to complete journeys, eg a person travelling from Nicholls to the Parliamentary Triangle, a popular route, would face this inconvenience.); and

- (c) The tramway proposal also means that people who live in Watson, Downer, Dickson and Hackett will have to change to a tramcar at EPIC or Mouat Street. Residents of other suburbs of North Canberra may also be affected. The WCCC believes that a public transport system that forces people to change vehicles when previously they had direct services will not be welcomed. Similarly it would be unreasonable to make Gungahlin residents change whilst granting an exemption to other people on the tramway route.

Public transport experts^{3,4} have shown that having to change vehicles reduces the attractiveness of a public transport service. In fact it could be the biggest disincentive. Estimates vary but it is said that on a journey where people have to change once the potential patronage is reduced by between 25 and 30 per cent and where people have to change twice potential patronage is reduced by around 60 per cent. A key factor in the recent decision by the NSW Government to build a bus-based transitway rather than a tramway for the Liverpool-Parramatta Transitway was that the bus system delivered higher levels of frequency with a lower incidence of transfers compared to using a feeder bus to connect to the tramway⁴.

For this reason the proposed tramway should only be justified on the basis that sufficient traffic exists between the Gungahlin main centre and Civic and people needing to travel beyond either terminus will STILL HAVE A DIRECT BUS SERVICE. We doubt that this condition can be met.

On the other hand the busway proposal means that the buses could run on existing streets and roads beyond each terminus as required obviating the need for passengers to change.

One further disadvantage of the feeder bus proposal is that buses will be restricted to the less profitable routes thus affecting the cost-effectiveness of the entire bus service. This would certainly contravene the spirit of the Competition model now being adopted in Australia but probably not contravene any legal statute or law.

10. Many speakers at the 13 February meeting pointed to the fact that "permanency" was one advantage of the tramway proposal. However, it is also a severe disadvantage as can be shown by looking at the problems Melbourne faced when urban change saw industry leaving the city centre and re-locating to the city's fringe or outer industrial areas. This led to a loss of patronage on the city's tramways and the authorities were then left with a costly transport system which could not readily respond to this change in circumstances.
11. Among the many claims made for tramways is that only they can "attract" investment in residential and commercial property. This appears to be a myth⁴. Any public transport system with a dedicated transitway and priority over other traffic produces the same investment⁴.

12. Equally there is evidence that new tramways in other cities in the world have failed to attract people to leave their cars at home^{4,5}. Where they have been constructed they have usually attracted people away from other forms of public transport rather than attracting new patrons to public transport. Also, the experience in US cities that introduced tramways in the 1980s and 1990s shows that there was no measurable decline in traffic congestion after the tramway opened^{4,5}.
13. The principal way that tramways should reduce green house gases is by persuading those people who formerly used private transport (especially for commuting purposes) to transfer to the tramway. As noted in point 12 above there is some doubt that tramways are successful in doing this. Certainly tramways offer no green house gas savings compared to buses where the electric power they consume is generated by coal-fired power stations. At their present stage of development wind and solar electric sources have a significant cost disadvantage compared to electricity coming from coal-fired power stations. We expect that these cost differentials will reduce over time. With the possible exception of some sites in Queensland all of Australia's sources of cheap hydro-electricity have been developed. In any case some hydro-electric schemes have their own environment problems.
14. The Gungahlin tramway proposal would increase traffic congestion on Northbourne Avenue simply because cars and other road vehicles wanting to turn right would have to queue in the traffic lanes rather than across the median as they do at present. The tramway would prevent road vehicles from queuing over the median because this would lead to unacceptable delays to the service. (The alternative is to construct further turn right lanes in Northbourne Avenue further reducing the width of the median which most people want to preserve.) Even if the tramway attracted the patronage claimed there would be no noticeable effect on traffic congestion in Northbourne Avenue because people living outside Gungahlin would still be dependent on road vehicles for commuting and other reasons.
15. The WCCC doubts that the tramway will be able to transport people in the 18 minutes it is claimed the journey will take from Gungahlin to Civic. Whether it will or not, we have no doubt that buses will be equally as quick provided they receive the same traffic priorities as the tramcars will get. If people have to change from one public transport mode to another more often, overall journey times could well be slower than the present arrangements.
16. One of the biggest disadvantages of the tramway compared to a busway is that, if it goes ahead, we would be "locked" into a form of technology which could not be readily changed. Other more efficient forms of public transport could be invented in the future and there are a few ideas being worked on (eg the Bishop Austrans mass transit system⁶). It remains a fact that tram technology was invented in the nineteenth century. While some recent innovations (thyristor control, dynamic braking, etc) have improved the efficiency of the vehicles, it is also a fact that the technology supporting the diesel bus has moved more quickly and now the carrying capacity of a modern diesel bus is little different to that of a single tramcar. New innovations,

some already under trial, allow buses to follow a set path in the road (installed at small expense) and being able to form buses into "bus-trains", (without the need for passengers to leave the vehicle) show promise of improving the efficiency of the bus still further⁷. Some bus companies are presently experimenting with the use of "sustainable" fuels such as canola oil, and with dual fuel buses.

17. Modern busway systems also are able to move as many passengers per hour as any new tramway system and at much cheaper cost⁴. This argument is academic in Canberra however, as there is no evidence to show that there will be large numbers of passengers.

Having listed some of the difficulties facing the tramway proposal it is also fair to note that tramcar designers have made better progress in reducing vehicle operating noise than designers of buses. Modern tramcars are usually quieter than buses. Noise reduction in tramcars has been achieved by the use of resilient wheels, pantograph current collectors rather than trolley poles or carbon block technology where trolley poles are used. One bus manufacturer (Scania) advertised in the early 1990s that its diesel buses were the quietest on the road. However, we know of no authority which has ordered Scania buses. Having said that, existing technology is capable of reducing the noise of buses. In the immediate future there may be some changes to the noise allowances for heavy vehicles under the Australian Design Rule scheme and this may make further noise reduction mandatory. Certainly, there have been noise complaints when diesel buses have been used on hilly routes. These complaints have mostly come from nearby residents rather than bus users.

ADVANTAGES OF BUSWAY SYSTEMS

We have already mentioned some of the advantages of buses in the discussion on the tramway proposal. Unlike the tramway proposal, busway systems can be introduced as required. In the first instance a transport corridor has to be put in place from the beginning of settlement and kept as a transport corridor until it is needed. Having secured the land busways can be introduced as lanes on existing roads (or as a specially dedicated bus road) as public transport demand expands.

The busway proposal will provide a much more flexible transport system than the tramway and will reduce the need for transfers from one vehicle to another because buses will be able to use existing roads beyond the end of the busway. (It is unlikely that the need for transfers can be eliminated altogether.) While the busway has the prospect of introducing "seamless" travel the tramway has only the prospect of being able to achieve this for a small number passengers.

The busway will clearly cost less to install and be more flexible in allowing emergency vehicles to share the bus space. (This is also possible with the tramway proposal if the track is set in concrete but it comes at the expense of increasing the costs of track maintenance and the costs of track installation.)

Furthermore, ACTION already has all of the infrastructure necessary to support a conventional busway and we understand that ACTION is monitoring the applicability of new technology to its existing network.

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