

AN EAST-WEST LIGHT RAIL SCHEME FOR INNER SOUTHERN SYDNEY An alternative proposal

Tony Prescott, MA (Hons), FAPI
9 February 2011

INTRODUCTION

In late 2010, the community groups Ecotransit Sydney and the Australian Conservation Foundation put forward a scheme to link Dulwich Hill, Sydenham and Randwick by light rail. The scheme is illustrated in the attachment “East-West Greenlink” (East-West LR map.pdf). The concept involved sharing part of the metropolitan goods line between Dulwich Hill and Mascot, then using the road system from Rosebery to Kingsford, University of NSW (UNSW), Prince of Wales Hospital (POW) and Randwick.

As an urban transport planning concept the idea is a sound one. It comes from the need to service the demand line from the south-east and southern suburbs to the Central Industrial Area (CIA), UNSW and POW, all major employment and activity centres, identified as such in the original NSW Metropolitan Strategy. The demand-line is currently substantially serviced by the M5 motorway and the heavy demand has led to calls to expand the motorway. However, such a move would exacerbate the congestion by further induced demand and would not be a long-term solution.

The demand needs to be met by a significant public transport solution that addresses the current deficiencies in this area:

- The lack of a direct connection from the Bankstown, East Hills and Illawarra lines across to the CIA and UNSW/POW (most journeys currently involve going into Central and changing to slow bus services).
- The premium fare on the two stations that directly serve the industrial areas, Mascot and Green Square, acting as a disincentive to use those stations for commuting.
- Generally slow journey times both by train and bus compounding the above, thus encouraging commuters to use their cars.

BACKGROUND

The notion of such a cross-regional link actually has a long history, being first proposed by Bradfield as a link between the Eastern Suburbs Railway and Sydenham. In the 1970s the Askin government was constructing the Eastern Suburbs Railway with an intention to build it as far as Kingsford. The subsequent Wran government cancelled the section beyond Bondi Junction. Ironically, if it had been built to Kingsford, the notion of an east-west link would have been relatively easy to complete with a rail line from Kingsford to Sydenham.

However, such a solution would now be extremely expensive in the context of other pressing heavy rail needs and, in any case, as a cross-regional route, it could be argued whether it requires a heavy rail solution. The demand could be readily met by a good, fast light rail line.

The Ecotransit/ACF proposal gives expression to the concept but its great shortcomings are the amount of major civil engineering required and the fact that it bypasses many of its best catchments as a result of following the goods line which meanders around the back of nowhere in terms of urban activity. The goods line mostly follows a very narrow corridor and to widen the corridor to accommodate two extra (tram) tracks would require a lot of embankment and cutting work within a very limited horizontal space (diminishing to almost nothing around the airport). The proposal also tries to service the airport, which is not really its function, and would have great and costly difficulty reaching even the domestic terminals from the goods line. If a user wants to access the airport from the line it would be better to interchange at Mascot Station, which would give access to both domestic and international terminals. Overall, it is not a very practical proposal and represents an expensive heavy rail input for a light rail output. As I have emphasised before, it is important with light rail to capitalise on its “lightness” and relative cheapness as a rail solution.

The big positive in the Ecotransit/ACF proposal is the suggestion to unlock the commuter potential of Mascot and Green Square stations by removing the premium fare. Obviously this would require negotiation (or the option of a buyout) with the private operator, but could be addressed by adding the foregone premium from those stations onto the premium for the airport terminal stations where users are more conditioned to pay airport-access premiums. Ecotransit/ACF also proposes a new station on the line in the CIA at Doody Street to improve the walking catchment. This would obviously be an expensive proposal that would have to be weighed on its merits.

In summary, the links that need to be made from the south/south-west rail lines to access the industrial/education/hospital centres are:

1. **Bankstown line:** a connection at Sydenham across to all these centres.
2. **East Hills line:** removal of station access fees in the industrial areas and a connection from Mascot station across to UNSW/POW.
3. **Illawarra line:** removal of station access fees in the industrial areas if interchanging to these stations at Wolli Creek plus a connection at Sydenham across to the industrial areas and UNSW/POW.

(Note that there are two distinct industrial areas in the CIA, the main one north of Gardeners Road, served rather inadequately by Green Square station to the north, and the Mascot industrial area centred around Coward Street, served by Mascot station.)



Mascot Station on Bourke Street. In this author's proposal the light rail line would be offset in the lanes on the far side of the median, passing the station entrance, so that interchange would not involve passengers having to cross traffic. (A similar principle would apply at Sydenham.) In the case of Mascot, the lanes in the foreground in this photo would be reconfigured as two-way for motor traffic.

ASPECTS OF THE ECOTRANSIT/ACF PROPOSAL REQUIRING MODIFICATION

1. A link from the MLR light rail at Dulwich Hill.

The main need for an east-west link is between Sydenham and the southern/eastern suburbs. A link from Dulwich Hill is quite gratuitous and would only serve a doubtful operational scenario in which MLR trams run through to the eastern suburbs. In terms of passenger needs, the existing CityRail Bankstown line provides the necessary connection to Sydenham. Very costly engineering would be required in this section, including excavation of cuttings and slewing of the passenger and goods lines to accommodate two extra light rail tracks (which would also have to be fenced off to prevent people accessing the heavy rail lines). However, there is some sense in extending a light rail line west of Sydenham station into Marrickville shopping centre where the streets could be converted into malls. This would be a relatively simple project serving a significant local centre. The Ecotransit/ACF proposal, on the other hand, bypasses Marrickville centre – the first of its several missed opportunities.

2. Mascot-Rosebery.

This section mostly follows the goods line, which in parts would not have the horizontal space to accommodate it without costly embankment work. It totally bypasses Mascot station, trying to make the link with the East Hills line by accessing the airport domestic terminal area. This would require either very long underground walkways or an overhead viaduct through the airport area – both major and difficult projects. After leaving the goods line, the proposed line traverses the back streets of Rosebery, with the only significant potential patronage generator being Eastlakes shopping centre. Overall, this section of line comprehensively bypasses much of the industrial area and an important link at Mascot station. It is better to forget the airport (to which a better link can be made at Mascot station) and follow the Gardeners Road corridor through the industrial area – and still have a stop at Eastlakes shopping centre.

3. UNSW/POW

There is a major topographical constraint to linking UNSW and POW by railed transport in the form of a huge hill/ridge between the two institutions. On the map, the proposal overlooks the hill but subsequent ground-truthing by the proponents opened up an alternative proposal of a line through UNSW campus in a mall, then into a short tunnel emerging in POW campus (then into Avoca Street). This has a couple of problems. One is that, in spite of the appearance of wishful “artist’s impressions” created by planners, trams and pedestrians do not (at least in Australia) mix well in malls and it would be necessary for the trams to have their own defined kerbed “roadway” through the mall (the same would apply in George Street in the city) so that pedestrians exercise caution and do not constantly walk in front of trams (as they do in Bourke Street mall in Melbourne, thus slowing the operation and risking injuries or death). The bus mall in Oxford Street, Bondi Junction is an example of this approach. The other problem with this route is that POW is too built-up to fit in a line easily. It would be far simpler to take the line up Barker Street (just outside the southern gates of both institutions), with a short tunnel under the hill.

AN ALTERNATIVE PROPOSAL

This author is an advocate of the small-bites, keep-it-simple approach to light rail and it is quite easy to take that approach in this case, with a couple of small exceptions. Like the author’s other proposals, this line would at all times be separated from other traffic in its own lanes (mostly centre of the road in this case, with some small sections of offset and reservation running) so as to maximise average speed. Stop-spacings would also be greater than other typical light rail lines proposed for Sydney due to the nature of the land-use in this area. This would also make for a faster journey. The only significant impediment would be traffic lights, for which phasing could ensure that trams have a good run. (European cities would be a source of good advice on this as the RTA tends to favour motor traffic over public transport.)

The suggested route is depicted in the schematic maps at the end this paper. A general description of the route is as follows.

Marrickville-Mascot

The proposal is to start the line in a “transit mall” (tram lines in kerbed roadway along the centre of a pedestrian mall, as in Bondi Junction bus mall), commencing in Illawarra Road and turning east into Marrickville Road towards Sydenham Station. As in the author’s other Sydney proposals, the work should be preceded by a parking strategy in which good provision is made for parking accessed from back streets. Marrickville already has some such parking. There are plenty of alternative roads for use by vehicular traffic displaced from these two sections of road. The intersection of Illawarra and Marrickville Roads will also be available for traffic moving between west and north as the splayed south-east corner from the former tram system will enable trams to “cut the corner” and not take up all the road space in the intersection. In deference to the Ecotransit/ACF scheme, a link from Illawarra Road to Dulwich Hill along the rail corridor is marked as a future option (but not any time soon!).

The Marrickville mall would end at Victoria Street and the tramlines would move to offset running along the southern side of Marrickville Road to position them for the run up on to the railway bridge outside Sydenham station where it is proposed the whole road be converted to a mall so that commuters can interchange between trains and trams without crossing traffic. Ecotransit has proposed an excellent scheme for a new road overbridge just north of Sydenham station to divert road traffic away from the station. This is shown in the attached file “Sydenham concept1.pdf”. It would add to the cost of the project but would be far better than the alternative of traffic sharing the present Sydenham bridge with a major tram stop.

There is a large area east of Sydenham station where houses were demolished due to the airport flightpath, enabling some latitude for road and tram alignments. The tramline would run offset on the southern side from Sydenham station along Railway Road, after which it would cross the Princes Highway and goods line by a couple of alternative alignments to a stop outside the new major IKEA development – and could help stimulate further development here. The area just west of Sydenham station is also one with potential for major redevelopment, as shown on the Ecotransit diagram.

East of Princes Highway, the light rail line would then follow the southern side of the goods line across Alexandria Canal and then cross to the northern side of the goods line (could be on the level but a viaduct would be better) to run into the western end of Coward Street, Mascot. A small resumption/part-demolition of an industrial property may be necessary to make this link. The line would then run along the centre of Coward Street (with a stop serving that industrial area) to Bourke Street where it would turn north (offset on the eastern side) in a relatively quiet section of Bourke Street to a pedestrianised stop right outside the entrance of Mascot station.

It can be noted that, between Princes Highway and Alexandria Canal, the line crosses the F6 corridor reservation which Garry Glazebrook has identified as a potential north-south light rail corridor. Obviously, therefore, there is future potential for interchange or junction at this point.

Mascot-Randwick

North of Mascot station the line would traverse a lightly-used section of Bourke Street, which could be converted to a tram-only reservation, to Gardeners Road where it would turn right and follow the centre of Gardeners Road to Kingsford. In Gardeners Road, a stop at O’Riordan Street would provide closer access to the southern end of the CIA than either of the rail stations. Other stops along Gardeners Road would be at Rosebery shops, Eastlakes shopping centre and West Kingsford.

At Kingsford, the line would go into a dive under the Kingsford roundabout, like the Anzac Parade line, and the two lines would have an interchange at this point. (North of Kingsford roundabout the lines would either remain subsurface, as in my premetro scheme, or return to the surface as in Garry Glazebrook’s current scheme for the Anzac Parade line. Subsurface through the Kensington section, which lacks the tram reservation, would have the advantage of avoiding traffic lights.)

The line would turn off Anzac Parade at Barker Street, in which there would be stops outside UNSW and POW. A tunnel would be required under the Barker Street hill between UNSW stop and Botany Street. This, and the bridge over Alexandria Canal, the viaduct at Coward Street and the road overbridge at Sydenham, would be the only bits of “costly” engineering on the line.

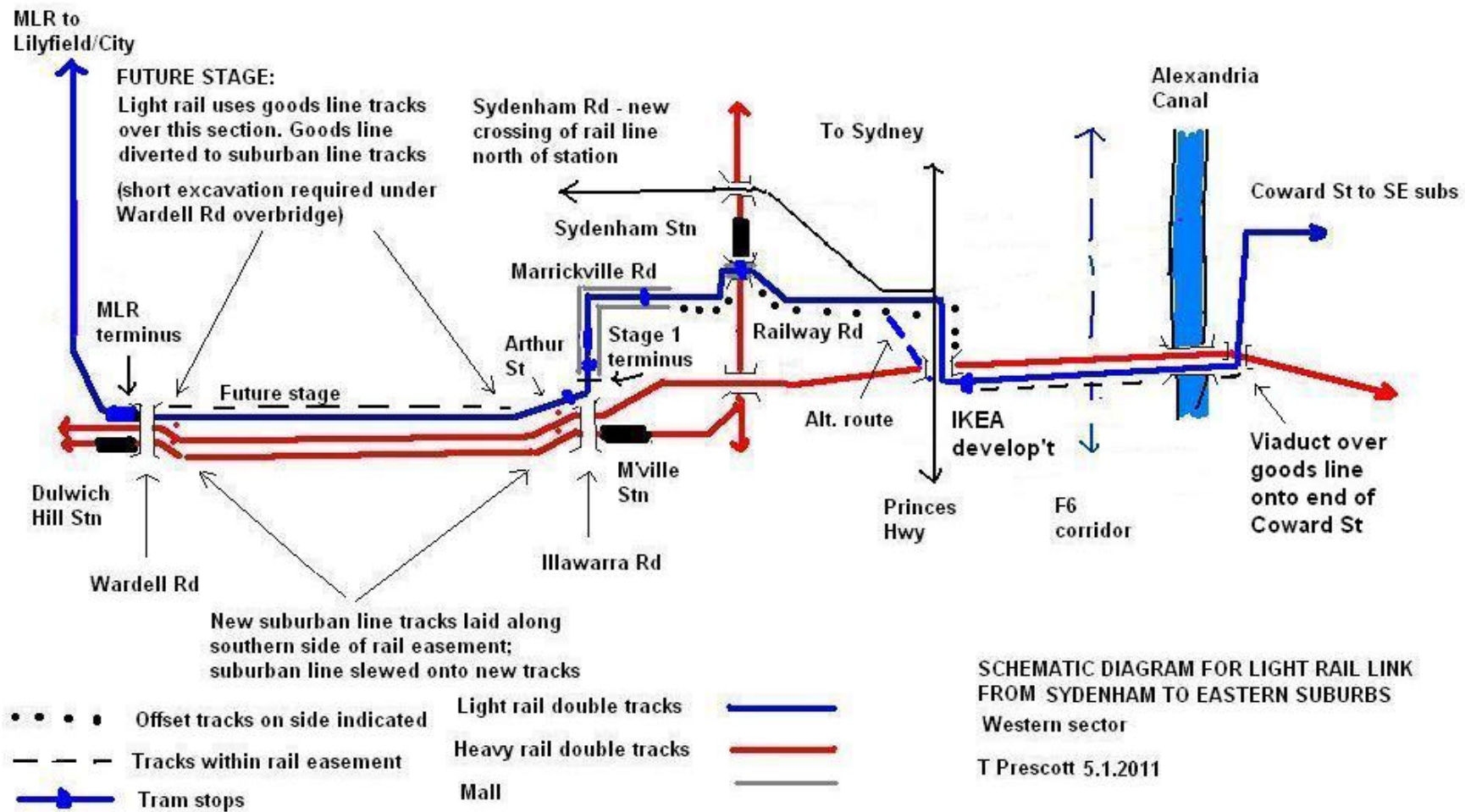
At Avoca Street the line would turn north to run into a junction with the City-Randwick/Coogee line at Belmore Road, with a transit mall/interchange at Belmore Road, described in a previous paper. There is a future option to continue the east-west line across to Bondi Junction along the former tram route. This would be a legitimate continuation of the line’s cross-regional function.

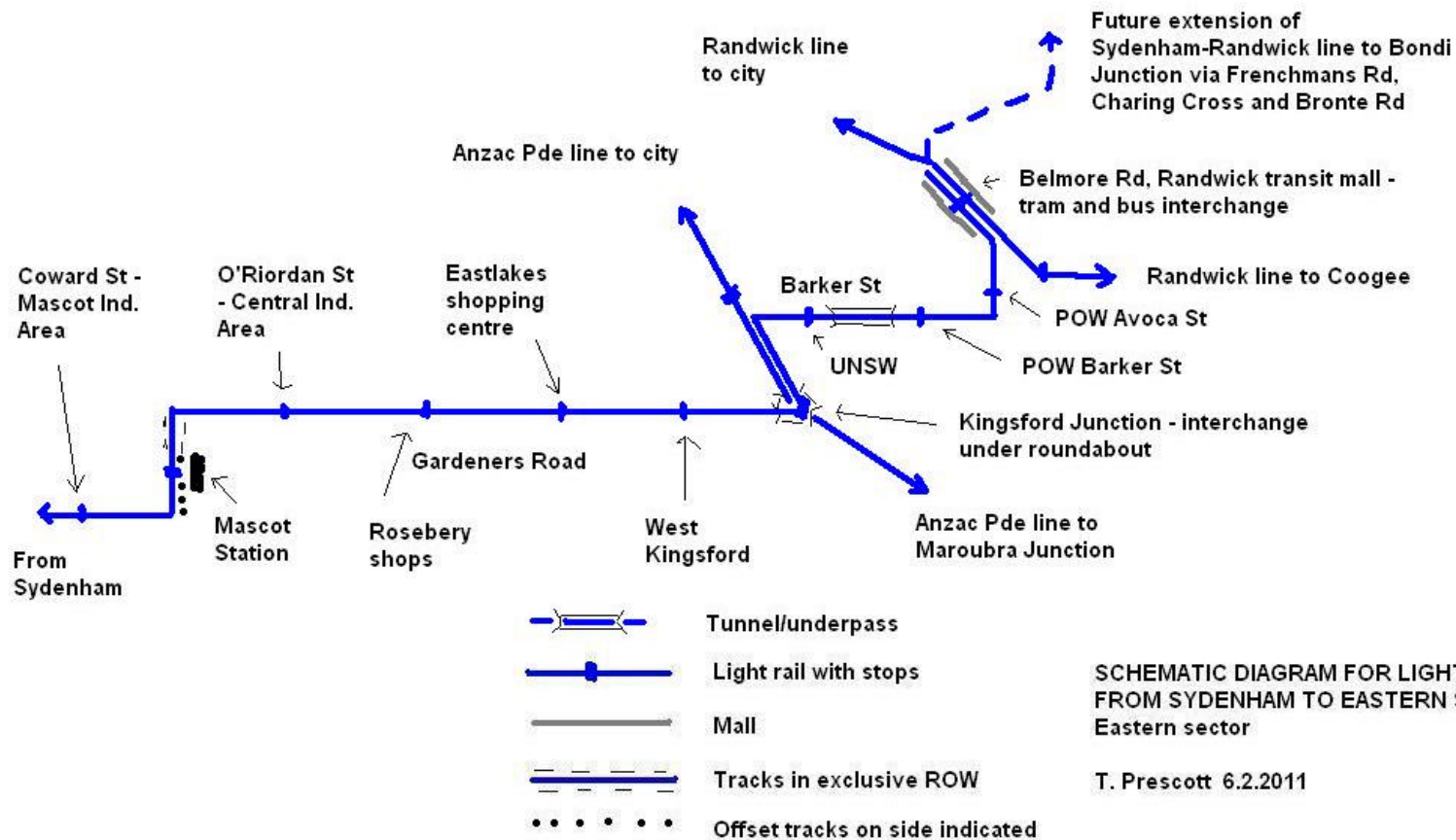
Trams for the east-west line would be supplied by Randwick Depot (see previous paper) which can be accessed from Randwick via the City-Randwick-Coogee line.

CONCLUSION

Taken in isolation as a light rail scheme, this proposal would be several places down the queue behind more vital lines to the CBD. However, in the context of the M5-widening debate, this scheme (including removal of premium fares for the two stations on the Airport line) should be brought into the heart of the discussion as a significant part of the solution. The scheme outlined in this paper is more achievable and effective and less costly than the Ecotransit/ACF proposal.

Tony Prescott
PO Box 2408
Bomaderry NSW 2541
Phone 0421 633 174
Email: historyworks@smartchat.net.au





SCHEMATIC DIAGRAM FOR LIGHT RAIL LINK FROM SYDENHAM TO EASTERN SUBURBS Eastern sector

T. Prescott 6.2.2011