

Submission to the Standing Committee on Infrastructure, Transport and Cities Inquiry into options for financing faster rail

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Preamble

I welcome the opportunity to submit this commentary on the financing of Faster Rail. We have been working in land economics, transport economics and the financing of infrastructure since our inception 25 years ago. Since the publication in 2012 of our *Liveable Sydney* report that addressed the value of High Speed Rail for Sydney, we have studied and developed the economics of what is loosely categorised as *land value capture*.

This submission does not delve into the economics, commercial frameworks or procedural detail as has been discovered or resolved from our efforts but seeks to focus on the core methodological approaches and what they mean for Faster Rail. Moreover, the purpose is to establish a background for potential recommendations for the Committee to consider and where accepted, promote to Government.

What is Faster Rail?

In the context of this submission Faster Rail is considered to be defined as:

“passenger rail services that operate at a speed so as to reduce travel times for existing or prospective future ex-urban communities below 45 minutes or otherwise so as to provide a service not less than 25% faster than the competing uncongested private car trip”

In defining Faster Rail in this manner the concept of Faster Rail is focused on the service outcome for the commuting or travelling customer and not the operating speed or rolling stock type. To clarify this in the context of the proposed Southern-Cross to Geelong Faster Rail proposal, the existing uncongested car trip (and the existing rail service incorporating 8 stops) is about an hour. Faster Rail then on either measure is to achieve a rail service that is not slower than 45 minutes.

Contrary to what might be expected, defining the service as achieving a trip duration of 45 minutes or less for the approximately 84 km track distance does not define the operational speed. If the service was defined without any stops and the alignment of the track permitted maximum speed operation, then a 120km/h operating speed would be all that was required. The proposed, or any practical, alignment does not permit 120km/h speed operation along its full length and thus higher operational speed are needed to achieve the target trip duration.

This is however not the main consideration. The utility for the community of a point-to-point 84km service is quite low. Such a service forces all of its customers to travel from the actual origin of their journey to the stations at each end. This causes considerable congestion to facilitate the interchange from taxi, bus, local rail and cars to the Faster Rail service; congestion that offsets the benefits of the more rapid service and lowers the overall benefit of the proposal. In response, any Faster Rail service will include stopping at interim stations to increase the benefit for the whole community (while decreasing the benefit for the relatively smaller group the non-stop point-to-point service remains the service of choice).

Notwithstanding the potential to operate services that stop at more stations, the Southern-Cross to Geelong Faster Rail service would likely stop at Sunshine, Wyndham Vale, Lara (for Avalon Airport), North Shore and then Geelong. At each station the train must decelerate from its operating speed to a stop, dwell for sufficient time to allow passengers to disembark and board the train, and then accelerate back to its operating speed. At a 120km/h operating speed, such a service will take around 51 minutes, a 160km/h service around 42 minutes. This satisfies the definition for Faster Rail; but does not meet the stated performance for the service. The media release by the Prime Minister with the Treasurer of 22 March 2019 identified that the service would cut the journey time in half to 32-minutes. To achieve this performance the operational speed would need to be close to 250km/h.

Recommendation

To establish a definition for Faster Rail that considers the service outcomes for customers of the rail service and not how fast the rolling stock may operate.

Why build Faster Rail?

Little travel occurs for the journey itself. The demand for most travel is a function of land-use; we live in one place and work in another, we are entertained in yet another, and so on. In many cases the places of work or education or entertainment and the times that we seek to work or learn or play are common and as a result there are significant concentrations of demand. The activity of travelling consumes land itself as roads and rail corridors, car parks and airports and so the concentration of demand also concentrates in pathways.

In the oldest parts of less modernised cities, such as Barcelona or Venice, these are alleyways and laneways for pedestrians. In new, modern cities as we have in Australia, these are mostly roads and freeways. The density of older cities, modernised or not, means that the distances between land uses is not far which permits low speed light-rail and metro rail services to provide satisfactory journey times in meeting the needs of high-demand corridors. Australia's low-density cities have had the bulk of their development occur after World War II and this framed their development around private car use. One of the results is the emergence of an informal polycentricity with distances between land uses that suburban and metro rail services can struggle, or even fail, to deliver satisfactory journey times in their attempt to link them together.

A response to this intra-city tyranny of distance is for our cities to replicate high-demand land uses. Sydney is getting its second international airport, our cities have multiple universities campuses, sporting stadia, commercial and retail centres. This approach has worked well given the dependence on the private car as the default mode of travel, but the increased scale of the city as a whole and the increasing density of our land use within it is increasing the concentration of demand on the corridors linking the land uses. This slows journeys vis-à-vis their duration in years past and eventually the demand increases beyond the practical capacity of any road network to satisfy.

This observation does not itself mean that road network expansion is not required. It does identify that our cities need to more formally define in their polycentricity. A city's many centres cannot and should not be all things to all people. In more formally defining the land use of its centre's the transport demand for each centre can be better forecasted and enable a prioritisation of any response. City planning across Australia demonstrates a clear direction to classify the focus of various centres in respect of the movement of goods, be that ports, intermodal centres or industrial and/or warehouse land uses. In contrast, the often-competitive behaviour of Councils for the localisation of land-uses means that any uniqueness as may be seen in our cities is an emergent unplanned outcome. The effect of which is to remove the ability to reliably forecast transport demand over the necessary timeframes to guide infrastructure choices.

The need to explore new non-road based transport services in most of Australia's capital cities has been evident for most of the 21st Century. The lack of a structured plan for our city's emergent polycentricity meant that the demand that is now evident was not part of any formally published forecast. More clarity for the nature of Australia's cities as we enter the 2020s would have fostered a far stronger focus on the development of 'mass transit' transport infrastructure. Not doing so is a lost opportunity that burdens Australia's productivity growth year on year.

In Sydney and Melbourne’s case there is an argument that their growth and inefficient land-use in the absence of a sufficiently granular structured polycentric city plan means that the lost opportunity is permanent. That is, it is not possible to realise after the area is developed that the land-use, scale or built-form and supporting transport infrastructure is wrong. How different might Melbourne be if the 1860s gold rush has not sponsored the rise in land prices to match or exceed the most expensive on earth and with that the justification for the speculative private development of most of the city’s rail network so as to connect whole new suburbs to the city?

The scale of our cities is such that the marginal cost of infrastructure to service the distant new land release areas solely as road-linked communities means this traditionally cheapest housing is no longer affordable. The cost to link these city-edge places via any form of rail is such that to date no business case has secured funding. In part this is due to the unplanned process giving rise to the new city-edge places. Designed as car-centric low density predominately dormitory suburban spaces in the absence of any transport infrastructure plan, they thereafter lack the form and density to justify ‘mass-transit’ to service their needs. This cycle is then repeated as a self-fulfilling and ultimately self-defeating process.

The physical scale of Australia’s cities, particular Sydney with its asymmetrically coastal centre, means that Faster Rail has application within our cities, not solely between them. Consider that Wilton, a part of Metropolitan Sydney, is same distance from the Central Business District as Geelong is from Melbourne. Our capital cities can never feel European nor Asian, each are far smaller. The figure below provides a stark clarification of this reality. The background map is Sydney showing the Sydney Trains and Sydney Metro rail lines. The foreground is the Paris Metro. The Paris Metro has 60% more stations, 5 times the ridership servicing an area little more than 10% of Sydney’s. Most metro networks having been modelled on the Paris Metro are similar. Part of how those cities function is the proximity of their land-uses and the density of the ‘mass-transit’ services.

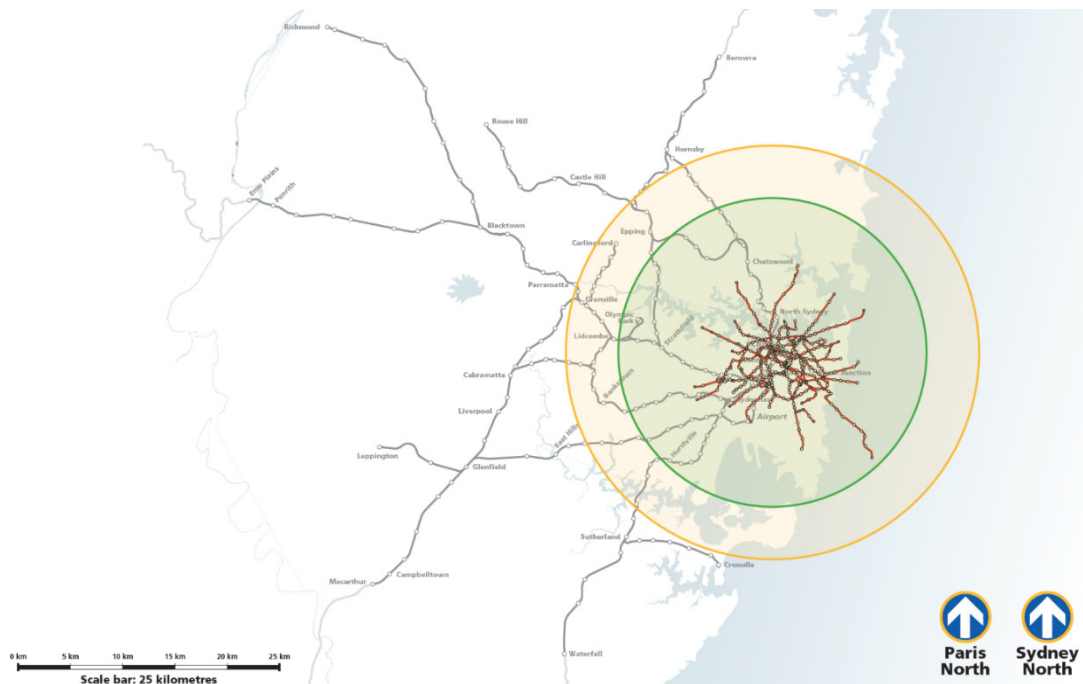


Figure 1: Overlay of Paris Metro network consisting of 302 stations and 214km of line length over Sydney’s Rail network consisting of 188 stations and 442km of line length.

The take-away from understanding that our cities are materially different from most of their international peers is that resolving how transport infrastructure can address the needs of our cities is not through copying their approach. Considering the contrasting scale, Faster Rail at the slower end of the speed scale equates to how our cities might facilitate the service suburban rail achieves in Europe. Faster Rail at the higher end of the speed scale equates not to how High Speed Rail serves Europe but their Faster Rail regional services serves their cities. That is, Faster Rail in Australian cities is about serving daily commuters access the specialist land uses of our cities. Or to approach this from the perspective of land-use, Faster Rail in Australia is about expanding the supply of economically relevant land for our cities.

The reason any transport service and the infrastructure that enables it is built should be to address improving the efficiency of the whole network of transport services to meet the demand it serves. The only exception being where the transport service itself enables new land uses. That is, Faster Rail is justified by:

1. Increased efficiency in fulfilling existing transport demand; and/or
2. Lower cost of supply for any given land use through expanding supply (also known as improving housing affordability).

Materially, enabling new land uses at any particular location does not occur simply by a new service turning up at an existing station or a rail line serving a greenfield location. Land use is an economic function and as such it is not simply the presence of the access to a rail service, but what rail service the station provides access to. This is fairly obvious when comparing the diversity and value of the land use around a suburban rail station 20 minutes from a capital city CBD vis-à-vis a country rail station two hours from any meaningful commercial centre. Each is a rail station and at one stage most likely over a century ago they were built into greenfield locations.

Returning to the Melbourne to Geelong Faster Rail proposal, the service the new infrastructure enables while faster does not service any new locations. Moreover, the service competes with a road journey of only 75km that can take little more than an hour and terminates in a city already exceeding 250,000 in population having been founded over 180 years ago. Appropriately then, the places and communities served by the new service are already diverse and of a reasonably high value. The service will increase local demand for land but given the maturity and scale of the places it is unlikely to promote new land uses. The proposed project then must seek to justify itself on the basis of the improved efficiency it delivers to the Greater Melbourne area.

The point-to-point service while certainly cheaper to implement with its sub-160km/h operating speed may not improve efficiency of the network. The attractiveness of the service will divert some car journeys, but in time the additional population will exceed the capacity of the service and they will return. The service as part of the reason for the population increase actually causes the service to have a shorter shelf-life in improving efficiency. To explain, if the new service adds 10,000 seats in the peak hour but promotes 10,000 new residents that regularly use the new rail service, the number of car journeys remains the same. The local congestion would actually be worse with the 10,000 additional 'last-mile' trips destined or originating at the train stations at either end. This lowering of efficiency in the proximity of the stations must be assessed against the alternative scenario where the 10,000 new residents do not locate themselves in Geelong and instead settle as is the current pattern of settlement across Greater Melbourne.

It is most likely the case that the worsening congestion around the stations is a greater disbenefit than the fractional lowering of congestion broadly across the city. Further, the broad settlement across Melbourne would be part of the trend demand for land and be unlikely to trigger its own pricing effect, whereas the proposed service would force a localised pricing effect for Geelong worsening housing affordability.

The 8-stop service with its 250km/h operating speed will be more expensive, but it now spreads its congestion and land use effects across multiple stations while facilitating the same benefits. The additional stops also expand the number of journeys the rail service can competitively replace increasing the scale of the benefit.

Notably, in extending the proposed service to Winchelsea, 37km beyond Geelong, the same 250km/h operating speed service that achieves a 32 minute journey time to Geelong, connects Winchelsea to Melbourne in 44 minutes. This fits the definition of Faster Rail and given that Winchelsea is a town of less than 2,000 people, this expanded service would enable new land uses. The project defined in this manner has all the benefits of the Geelong terminating service plus the benefits arising from the service re-balancing land use for Greater Melbourne. The project is considerably more expensive, but it is now most likely justified as the improvements and expansion of the service has increased the benefits far faster than it has increased the cost.

Recommendation

Develop a set of criteria for the design of a Faster Rail project that incorporates factors such as the local traffic and transport impacts, the capacity of the service in the context of the alternatives, the ability to expand the services, and the scale of the land use transformation opportunity.

What type of Faster Rail can get financed?

The options to finance Faster Rail are not available to all types of Faster Rail projects seeking finance. To consider this further, it is necessary to identify the options that exist to fund Faster Rail. Taking the definitions for value capture funding mechanisms as defined by Dr Chris Hale¹, we have:

1. Capturing value through the mainstream tax system (Tax Increment Financing);
2. Special fees or levies;
3. Auction or sale of development rights;
4. Operation of an urban renewal authority; and
5. Direct development;

plus the traditional approaches:

6. Public Private Partnership ('PPP') based on fare box revenues;
7. PPP based on availability charges;
8. Asset recycling;
9. Public sector direct funding; and
10. Private sector direct funding;

Focusing on the traditional approaches first:

- Fare box revenues for rail services are generally insufficient to fund the costs of operation and maintenance and as such do not provide any supplemental revenue stream to service any financing of the rail infrastructure enabling the service;
- Availability charges have been seen to provide poor value for money to Government mostly due to the underlying higher cost of finance the private sector must pay vis-à-vis the rate available to the Government;
- Asset recycling depends on the operation of the service using the infrastructure being profitable so as to make the infrastructure an asset. Passenger rail services generally do not operate profitably and none do so or are forecast to do so in Australia removing this approach as an option;
- Public sector direct funding has been the default approach for passenger rail infrastructure since the Depression. It remains a practical approach subject to budgetary constraints;
- Private sector direct funding has been the approach to develop the majority of Australia's infrastructure, but where this is rail infrastructure, it is solely being applied to freight where the feasibility arises from the logistic support the freight rail service provides mining and other primary industry. In the case of passenger rail, the direct economic value of the service is less than its direct economic cost removing the feasibility for private sector funding.

¹ The transit transformation Australia needs, September 2019, Dr Chis Hale, Prosper Australia

Therefore, of the traditional financing approaches for infrastructure, this cursory consideration of options suggests that only a PPP based on availability charges or direct funding by the public sector are available for passenger rail. Faster Rail proposals beyond 50km in line length will generally exceed \$10B and will quickly surpass \$25B as they tunnel through our cities centres and stretch into the regional areas beyond the city's current limits. At these costs, current policy for the management of the public purse means most Faster Rail proposals can't be funded by either remaining traditional approach.

Presupposed in the primary question of the Committee's Inquiry is the acceptance of this conclusion. Traditional approaches to financing transport infrastructure are not available for Faster Rail even where the project offers clear benefits for Australia (and an unambiguously supportive benefit-cost ratio). Notwithstanding the potential for non-traditional, yet non-beneficiary funded approaches, the absence of established references for value capture funding approaches, particular in an Australia context means each approach requires its own examination as to its applicability, capacity and constraints to financing Faster Rail.

Tax Increment Financing ('TIF')

The term does not have a commonly agreed meaning, however broadly speaking it represents any funding mechanism where the tax system is extended to secure a proportion of the increased revenues occurring in the economy due to the commencement of the services on the infrastructure. The approach is used in the United States and nominally should be practical to implement in Australia. However, how to implement it into the Australian three-tier government system with its allocation and separation of powers is far from obvious.

Taking this concept literally the capacity of the approach equals the tax revenue ratio of GDP (around 27%) of the increased GDP attributable to the passenger rail service. However, any implementation of this no-new-tax financial benefit search and rescue effort is unlikely to secure the GST on the increased trade nor increased personal income or payroll taxes due to increased hours worked or additional workers employed. No implementation could ever find, nor perhaps intend to capture, a share of the savings in lower unemployment and other benefit payments due to the increased economic activity induced by the project and subsequent service, or the lower medical costs due to shorter and lower stress commuting.

Assuming a generous 12.5% can be captured by an implementation of TIF within Australia, a small \$10B project requires over \$80B (or over \$100B when interest costs are considered) in discoverable taxable income, profit or gain. Assuming the project took 7 years to deliver and it was practical to recover all of the value to be captured in the first 10 years of operation, then the project represents 0.11% of GDP over its delivery but must generate a 0.24% increase in tax revenues each year. That is, the financial benefit cost ratio ('BCR') for the reduced set of benefits within the value capture mechanism must be over 2.2:1. Any experience with infrastructure BCRs will identify that no such project exists with most not reaching a 0.5:1 in direct financial benefit. This is typically the case as the majority of the benefit is a collective and emergent outcome due to the network effects of the new transport service offering. It soon becomes clear that TIF in this form will not fully finance passenger rail service infrastructure.

In the alternative, the concept can incorporate expanding the tax base as it secures a share of the income and asset price growth due to the project. This may be a special levy on businesses and land near the new services' stations (as was part of the mechanism used on the CrossRail project in London). It could potentially be a special capital gains tax or service tax. Irrespective of the mechanism, the ratio of project scale to tax base remains. If in the absence of an expanded tax base the TIF can at least secure its scaled' proportion in tax revenues, the incidence of this new tax in the example above must secure more than 100% of the discoverable financial gain the project can be seen to generate. Therefore, TIF can only secure a proportion of the cost approaching or reaching 100% if inflation and real growth in the local economy is considered and only do so when the taxing methodology approaches securing 100% of the gain.

The political ramifications of such a process are obvious. Focusing on the policy and project design, as the politics lowers the proportion of the financial gain that is targeted, the more the project must bring about real growth to the beneficiaries on which the tax applies. In other words, if you want a project to be fully funded via taking a proportion of the securable financial gain the project creates, it needs to have a disproportionate impact on the utility of the places it serves.

This would suggest that transport projects such as light-rail projects are unlikely to be able to self-fund via TIF. Unless the new service activates sites for urban regeneration, an unlikely outcome of light-rail, the incremental economic development to the businesses and community that benefit from the infrastructure while positive, is insufficient to realise cost recovery. In comparison, Faster Rail projects designed so that they bring about welcome urban transformation will have that disproportionate impact. Anecdotally, a \$2 billion inner-urban transport project may only secure \$500 million via an aggressive TIF mechanism while a \$20 billion Faster Rail project may secure \$25 billion without having to be so aggressive.

Returning to the Melbourne-Geelong Faster Rail project, as a non-stop service end-to-end it will be far cheaper to achieve a 32 minute run time, but its proportional impact on the economy of Melbourne's CBD means there is little revenue to secure via a TIF at that end and while the impact on Geelong would be dramatic, the existing scale of urban development means that the proportional impact is not of a scale to get even close to funding the cost. The stopping service, now more expensive, expands its scope of beneficiaries to the extra places serviced by the Faster Rail trains. Some of these places will experience considerable economic gains and from a lower base than that at Geelong representing an improved capacity to obtain revenue via a TIF. However, our work on the economics of this process indicates that a greater proportion of the cost can be secured, and in this particular example more funding than the cost of the non-stop service, but not enough to fund the increased cost of the stopping service.

A common reaction is to shift the service design and have the non-stop service stop, meaning the journey time end-to-end is ten minutes slower. This reduction in service of the main value the Faster Rail creates – time, is almost always counterproductive. That is, the reduction in cost from slowing the service outcome lowers the securable TIF even faster. The economically rational reaction is to adjust the design to serve an additional place that will experience a large transformation to secure revenue from. This could be a location along the line with the design change promoting a realignment of the line, however for Faster Rail it will more often than not be a place beyond the places already demanding the service.

Once again, the Faster Rail project serving Melbourne to Geelong achieving the 32 minutes journey time with stops is best extended to Winchelsea or a similar location. Notwithstanding the absence of the regulatory mechanisms to manage the type of transformation a 44 minute service from Winchelsea to Southern Cross Station in Melbourne's CBD would force, the economics of the project and the land economics of the places it serves would mean financial gains would be available for a TIF to secure 100% of the funding.

Special Fees or Levies

In the context of the paper by Dr Hale, the focus of these fees or levies is land value. The fee or levy could also apply to businesses via Council rates or similar mechanism. The usual intent is to capture the value created by the expected regulatory arbitrage as land is rezoned for the new density and land-uses that sensibly respond to the increased connectivity the transport infrastructure delivers.

Irrespective of the scope or incidence of the fees or levies the approach is only a specific methodology of TIF unless the fee or charge is payable in the absence of a financial transaction. That is, a TIF mechanism could incorporate a special fee or levy on changes in planning controls payable as the land was exchanged at a higher value or the increased density was consumed in the commencement of a development. In contrast, a TIF would not include a special fee or levy where it was payable regardless of any transaction.

The CrossRail Project in London is an example where such a non-TIF special fee or levy was utilised in the funding of the project. To the regret of the project's leadership, the project did not secure any of the land value change. It did indirectly reduce the scale of the increase through impairing the land value due to the application of a special levy on residents and businesses via a mechanism similar to Council rates. This charge was payable for years ahead of the delivery of the infrastructure and will remain in place well beyond its commissioning. Not unsurprisingly, the scale of a special levy that is paid as part of normal residential occupancy and business operation cannot secure a significant ratio of the project cost.

This type of special fee or levy is intended to occur on the basis of a calculation for the apportionment of benefit regardless of whether the benefit has been realised or made liquid. This approach can have challenges in resolving a methodology for this apportionment that does not give rise to unacceptable inequity. An advantage of the approach is its reliable revenue stream that is not affected by economic cycles or uncertainty for scale and timing of the revenue as is the case with a pure TIF.

The incidence of such a special fee or levy may function well where the TIF is poorly suited to the economics of the place served by the infrastructure. This is a project specific analysis, however as a guide the discussion above regarding the Melbourne-Geelong Faster Rail project would suggest that there would be value to consider how a special fee or levy might be able to be equitably applied to the beneficiaries in proximity to the Southern Cross Station.

A consideration of a land value linked special fee or levy (within a TIF or otherwise), must take into account the existing charges and their effectiveness in securing the revenue to cover the costs the charges are intended to pay for. The development of land is already subject to stamp duties, land tax, capital gains tax, and income tax as general public sector revenue and contributions to Council, State and/or State agencies or authorities mostly as cost recovery mechanisms of varying degrees of success. Several State's already have infrastructure contribution mechanisms and both Councils and State Government are experimenting with special fees and charges for the granting of increased density. The broadly unpredictable nature of these efforts lower investment appetite and increase risk for any particular infrastructure project's feasibility where it seeks to rely whole or partially on such special fees or levies.

To illustrate, imagine if the Melbourne-Geelong project was expecting to be funded by a special levy on increases in density and during construction of the project, the Geelong Council separately implemented its own broad-based special levy on changes in density. The levies would have an area of overlap and most likely result in an impost on development to the extent that no development remains feasible and no development occurs. In what might be described as a reverse tragedy of the commons, the rightful application of regulatory powers on land by two stakeholders combines to result in no revenues for either party.

Notwithstanding the threat from unco-ordinated regulatory action, where existing levies or fees are not cost recovering the combined public sector obligations to the land, the projects presence will create unfunded budgetary shortfalls in the Council and State bodies obligated. Although outside the scope of this submission, a cursory review of relevant Auditor General reports will show how land release in much of the country involves high charges to the developers, yet the actual costs to provide the roads, services, schools and so on to the new communities considerably exceeds the revenue collected. Any special fee or levy approach would need to consider this unintended externalisation of the costs linked to the land value uplift.

Looking beyond the complications and challenges for the implementation of a special fee or levy, the approach does not alter the macro-economic analysis explored above in respect of the TIF's sensitivity to the project design. Special fees and levies represent a potentially effective tool whose capacity to enable the feasibility of a Faster Rail project remains linked to the project's design.

Auction or Sale of Development Rights

This approach is what is often referred to as the 'MRT Model' after the funding mechanism the metro rail service provider of Hong Kong uses to fully fund its infrastructure. The line's design is adjusted to place stations on land that is well suited for redevelopment at considerable scale. The project proponent secures the planning approval for increased scale and sells the 'air rights' over the station. In Hong Kong where any location could be a 40 storey high value residential building and the stations spacing is little more than 500m, the approach covers 100% of the cost.

In Australia, changing an already urban area's built form from 8 storeys to 40 storeys is unprecedented (let alone from low density two storey suburbia). Our Metro designs have stations spacing exceeding 2km that coupled with the higher construction costs means our project are loading 8-10 times the cost into each station precinct compared with Hong Kong. Clearly, at least in a like-for-like basis of Metro rail infrastructure this approach can't hope to fund the cost.

Faster Rail doesn't fare much better. The profit from the development rights is far higher as the transformation is more dramatic. However, by definition achieving fast journey times compared with existing rail and road options means very long distances between stations. The cost per km may be far lower as it is likely to be at-grade rather than in tunnel, but it remains an impossible task for the various station air-rights to be of a value to fund the infrastructure.

A modification of this approach is for the project proponent to secure ownership of the stations and its immediate surrounds. At a sufficient scale such an approach becomes a de facto Urban Renewal Authority (as covered below). There however is an interim scale that could be seen as 'Development Rights on Steroids'. The political connotation of becoming competitor to developers without formally doing so via the Authority approach is a non-trivial concern, particularly where the Government utilises compulsory acquisition powers in the process. Moreover, precedent exists for the pricing of the land under just compensation legislation to be considerably above the market price due to the acceptance that the purchase is itself occurring due to the expectation of a change in the planning controls.

Notwithstanding any so-called 'vampire' land value gains by existing landowners, a simple analysis clarifies that the net additional revenue from the sale of development rights of the rezoned lands less the cost of the land at this non-Authority scale remains fundamentally insufficient to fund the infrastructure. Naturally, this does not mean the approach is without merit. It can also be added to the mix. Caution may be needed in its application as the social license for the Government to act in the economy and take profits in this manner while not simultaneously removing the need for taxes or application of general revenue is not certain.

To the advantage of the method, as it directly secures 100% of the value created and the process of its trade is controlled by the project proponent it provides a higher certainty for the scale and timing of revenue than alternative approaches. The direct relationship also means that where the stations are located in existing relatively high-value urban environments it gains more than TIF or special fees or levies and is less sensitive to project design. That said, were the project designed with station spacing at the 500m or less level common to most metros and the scale of development over the station was permitted to be CBD-like, then the method might secure close to 100% funding.

An Urban Renewal Authority

An Urban Renewal Authority as noted above is essentially a Development Rights trading approach at a whole different scale. The additional role that might be secured is that of urban infrastructure provider. That is, when only dealing in the station air-rights and perhaps 2 hectares of land adjacent to the station, the civic and civil infrastructure is delivered by the existing stakeholders as an incremental demand. In the Authority approach the concern may be 20 hectares of adjacent land or perhaps 2,000 hectares and the existing stakeholders are unable to facilitate what is no longer an incremental demand.

The approach assumes that the station is located in land that is in need of urban renewal (or for Faster Rail, urban creation). The scale introduces new challenges in how land control, land ownership and certainty for the capacity to consume the rights might be enabled within the existing planning system. Does the approach mean that the planning authority purchases land? Does it mean that the development capacity is purchased and that purchaser then procures land to apply it to? If so, how do such rights function and interact with the existing statute and precedent that itself is different between States and Territories? How is the process stepped into? If the location of the station is known in the market, how can land speculation be contained so as to not destroy the feasibility of the project altogether? How is demand and pricing of the Development Rights maintained at a sufficient level over the extended timeframes that the scale force?

Simplistically the approach assumes that the project proponent has land ownership and control over the planning authority. In the event that the Government is the project proponent as has been the case for passenger rail for about the last century, then dealing with the questions above it would appear difficult for the ownership and control to be realised. It is impractical for Government to proceed through the approval process to make the project real without the market knowing the detail sufficiently to game the Government on the land found to be necessary to the project. The existing planning system rightly separates powers and facilitates a consultative engagement process to enable democratic representation, yet the extent of the new built-form, the necessary pace of its development, and the potential that there isn't a local community to refer to, all frustrate or are frustrated by the existing framework.

The intent is to enable the funding of a project. This requires certainty. How does the Authority approach enable certainty as to the level and timing of the revenues from the trading the Development Rights? The existing planning system does not have any mechanism whereby the advent of certainty about the future potential of land use is not instantly a right of the land and with it a justification of a higher value in the market. The Urban Renewal Authority approach only succeeds to alleviating the project risk from the Government's balance sheet if it can simultaneously have certainty for the future land use and not vest this certainty in the land or the landowner.

The assumption in this discussion is that the Government is the proponent. In the context of infrastructure being funded by the regulatory certainty for the land use of the land at the end of the line, there is no precedent. There are however numerous precedents where the proponent is an actor from the private sector. The London Underground, Melbourne's own suburban rail network and in the era before the motor car, even trams could be developed in this manner including the largest interurban electric railway service in the world at the time, built in Los Angeles between 1901 and 1911 that had over 1,600km of track.

In contrast to Government, a private sector organisation can develop a service and secure financial approval for the project without informing the market of the alignment or locations of stations. In the absence of transparent information as to the plans of a private sector project proponent, the target land is not speculated on. The Government can facilitate certainty to the project proponent as to the future land use, although differences in legislative approaches between States and Territories makes this difficult to navigate were a project crosses between jurisdictions. The problem that planning controls vest in land remains and this ultimately hampers this approach unless the land is owned by the proponent before the regulatory certainty is granted.

In the absence of actors in the economy doing what was normal a century ago, our system of land management has changed in a manner that eliminates how it used to be done. This is not an argument to return to the approach of the past as a significant part of that process was the inappropriate use and abuse of power by the stakeholders. Rather, it points to a need to reintroduce the mechanism in a manner suitable to a 21st century context.

Conveniently there is a precedent in Australia; airports. Airports in Australia are subject to common assessment no matter where they are located, they are complex built environments that are realised via detailed master planning where the only beneficiary of any added scale of capacity is the proponent or operator of the airport. That is, only the project proponent is able to utilise the rights granted under an approved masterplan.

Faster Rail is a nationally significant project particularly if the service it enables is correctly designed – a non-trivial caveat given the existing project design processes for infrastructure in Australia. The inquiry to which this is a submission is testament to the acceptance that the Commonwealth Government has a role in the provision of Faster Rail. A clear action that can be taken, and materially that can only be taken, by the Commonwealth Government is the establishment of an Authority empowered to approve the overall project including the master planning of the precincts around the stations that form part of an Urban Renewal Authority funding model in the same form as is currently facilitated via the Airports Act 1996 (*Cth*).

Care would be required in ensuring the appropriate checks and balances are in place, that the land-use and density changes are only available to the project proponent and that, subject to the enforcement of fair compensation processes, the land identified as part of the project can be acquired, compulsorily if necessary. There are many justifiable causes to vary the project from the economic and engineering ideal to address environmental impacts and the processes implementing the regulation would need to support the balancing of these matters. Further, unlike an airport, where there is little choice except for the urban form to respond to the infrastructure, the Faster Rail project can and should respond to the existing urban form.

In contrast to any other approach to financing and funding Faster Rail above, this approach facilitates certainty via the reliance on the enforcement of regulation by the Australian Government. This approach provides a common framework for considering the whole project and obtaining approval for the whole project regardless of the existing land-use, whether the owner is a private sector entity or public sector body, or which jurisdiction or jurisdictions the project is located. Notwithstanding the need to consider the design of the proposed Faster Rail project in South East Queensland, this approach supported by the appropriate Federal legislation would enable the promoting local Councils to be a project proponent and enable the finance without recourse to the Government balance sheet. The same cannot be said for the other financing options.

Recommendation

The Government establish an Authority via a Bill similar to that of the Airports Act 1996 (*Cth*) that vests regulatory oversight of lands within the scope of a Faster Rail project with the Authority.

In respect of the project design, urban renewal or creation means that those places aren't 'anywhere' today (socioeconomically) and that the Faster Rail infrastructure makes them 'somewhere'. If every station on the line were like this, nothing would happen as there would be no one to use it. The Authority approach then has a specific project design that it can support.

The infrastructure must link places that are already 'somewhere' to places that are 'nowhere'. The larger the scale, the greater the scale of the urban renewal and the more important the 'somewhere' is as a destination relevant to the families that move to make 'nowhere', 'somewhere'. In the case of Faster Rail, the destination must be an employment centre and it must facilitate the link so that the journey time door-to-door is not more than one hour and preferably only 30 minutes.

The key factor here is door-to-door. If the terminating station at the 'destination' is still a short train, light-rail or bus ride away from the bulk of the employment lands, then the train journey can only be 20-35 minutes (given that most of the commuters don't live at the origin rail station). Given a few stops and this limits the distance the Faster Rail can extend before the 'nowhere' is too far away in time to be converted to 'somewhere'. The result is that in most cases what matters is that a significant bulk of employment land is within a 10-minute walk from the destination station(s).

To consider commentary on Faster Rail proposal of the last decade, this means that the approach can work to support a service terminating at Southern Cross in Melbourne, but does not support proposed terminating stations in Canberra (that aren't near Civic), or in Sydney (Bradfield himself sought to relocate Central under Hyde Park as it isn't central enough, and neither Homebush nor Parramatta are sufficiently attractive 'somewhere' socioeconomically to ensure the land-use at the origin stations beyond Greater Sydney will be attractive enough to secure the necessary value uplift).

Land use is always in competition. Faster Rail infrastructure changes the supply of land of equivalent competitive value. If the service links to Parramatta, then the land will be competing with other land that is also linked to Parramatta. The harsh commercial reality of the land economics is that land linked to Parramatta by a 30-40-minute commute is not as valuable as land that is 30-40 minute commute to Sydney's CBD. Designing Faster Rail projects must consider that the primary purpose of such infrastructure is that it is to disrupt housing affordability trends. The design providing the optimal value for the community is conveniently, but unsurprisingly, the design providing the optimal security for its funding.

Direct Property Activities

This approach has the proponent not only facilitating the land supply but also developing the land. It clearly facilitates the financing and funding of Faster Rail as it is the approach used by JR East for its Shinkansen services stretching across Japan from Tokyo. JR East is such the developer that more than 50% of its revenue is from commercial leasing incomes from the property it has developed at its stations and not sold. This is an extremely high land value, high density approach in the largest population centre on earth and scaling it down to Australian densities and population level may considerably unbalance the financing equation.

It is generally not an approach combined with the Urban Renewal Authority so as to essentially mean the rail project company builds whole towns along its line, but this did work for the railways in the United States 150 years ago and we have a precedent in Australia with the former town of Yallourn (albeit in association with a coal mine and power station, not rail).

If the approach is not linked to the Authority approach then the planning uncertainty returns and the scale of the associated development is likely to be akin to that of the Development Rights approach. On balance, despite being a proven approach for Faster Rail, the uncertainty for timing and scale of revenues coupled with the expanded risk suggests this is not a go-to methodology but rather one to keep in mind to supplement the core funding approach(s) being applied.

So, returning to the question, what type of Faster Rail projects can be financed? Projects designed to effect land economics. Projects that provide a service which converts 'nowhere' to 'somewhere' and serve at least one 'nowhere' so as to provide the opportunity to capture the value from a grand transformation. Projects that link to a 'somewhere' where the land that serves it today is relatively expensive. Projects that both stop to serve more locations and achieve trip times supporting door-to-door journey times of under an hour and preferably little more than 30 minutes.

Is this what current proposals do? In short, no. Faster Rail being itself transport infrastructure is mistakenly framed as a transport project not one framed by land economics. This is not to say the detailed design is not all about the transport, but that the question that defines the service specification which will guide the detailed design is about land economics and more specifically housing affordability and the cost of living. The project linking Geelong to Melbourne as a transport project might just link them with perhaps two stops, but as part of shifting the land economics of Melbourne (without disrupting Geelong's too negatively) the service extends beyond Geelong and has four or five stops.

A note of caution. The financing is inextricably linked to certainty. If the extended Geelong-Melbourne (or more correctly in this case Winchelsea to Melbourne) project were to proceed and unknown at that time of the project's commencement, another Faster Rail line is proposed, several Councils within Greater Melbourne approve wholesale rezoning, and/or any other significant change occurs in the forecasted supply of land, then the project's financing might fail. The point is that if the project is funded via how it affects local and regional land economics, the feasibility is then linked to the supply and demand of land competing to provide the same utility.

In considering Australian capital cities, Perth, Adelaide, and Darwin lack the constraints on land supply. Hobart does not have the scale to support being the destination of even an infrequent Faster Rail service. Melbourne is clearly of the scale, but the choices for land supply and alternatives to facilitate land supply other than Faster Rail abound. Brisbane with South East Queensland plus potentially the Sunshine and Tweed Coasts have scale and limited choices for land supply positioning the region well, although locations satisfying being 'nowhere' might be challenging to identify. Finally, Sydney will shortly have an undersupply of land and due to the local topography lack almost any options other than Faster Rail. That said, the distances to reach the 'nowhere' locations outside Sydney are such that even High Speed Rail as a form of Faster Rail may have difficulty in facilitating sub-one-hour door-to-door commutes.

Conclusion

Australian cities need Faster Rail. Our cities need it to be provided options so that responding to the forecasted growth can be something other than just tearing up the past and placing dehumanising bulk on unattractive noisy higher volume road corridors. In the absence of Faster Rail, an extra million people and more for Melbourne and Sydney and perhaps also Brisbane will mean just that. Faster Rail does not eliminate the need for a more nuanced response to density so that parts of our cities can be like Barcelona or Paris rather than being either Houston or Hong Kong and nothing in between. Faster Rail is a national interest and requires policy and regulatory support from the Commonwealth Government. Faster Rail is also late.

Our cities are being planned in the absence of Faster Rail. In the 1980s this didn't matter, but now it means we are locking in future inefficiencies to burden the economy and hamper productivity growth. The certainty of functional linkages to regional New South Wales from Sydney, regional Victoria from Melbourne, and between the Coasts and Brisbane will fundamentally change the planning of those cities. Faster Rail doesn't just change the regional origin, it also changes the central destination. Financing the 100s of billions these services will cost to implement is a national concern but equitably must occur via securing its repayment from the local beneficiaries of the service.

Making Faster Rail happen only takes the Commonwealth Government to say how they will regulate the project and the ways it can be financed and funded.