

CLOSING GENERAL SESSION

Light Rail Down Under *Three Strikes and You're Not Out !*

PETER TURNER

Parsons Brinckerhoff

Queensland, Australia's "sunshine state," is typical of many sunbelts—it relies on tourism and has rapid population growth, continuing urban sprawl, falling transit modal shares, and a general community concern for the environmental consequences. These are trends familiar to many U.S. cities.

Light rail transit has been considered as a solution to these concerns, and has been the subject of a comprehensive planning and justification effort on a number of occasions for a Brisbane-based system. However, despite the many benefits offered by the light rail mode, none of the previous schemes have been able to garner sufficient support to allow implementation. State government is now preparing a planning and project justification for a light rail scheme in the region for the fourth time in a decade. This time, the proposed corridor is along Australia's premier tourist destination—Gold Coast City.

INTRODUCTION

The city of Brisbane is the administrative and commercial heart of Queensland. It forms part of a conurbation of some 1.5 million residents that includes four cities and two shires. From the turn of the century until 1969, the city was served by a network of tram lines which, in their heyday, operated a fleet of 425 trams and carried 170 million passengers per year.

As in other cities in Australia and overseas, 1960s Brisbane saw the demise of its local tram networks as community leaders sought to modernize municipal public transport systems. From the late 1950s until the mid 1980s, Brisbane experienced massive urban expansion as the municipal program of expanding the (then) limited sewer and water reticulation network to new development sites allowed developments to expand rapidly. The city changed from a corridor-based development focusing on tram lines to extensive urban sprawl. With the people's emerging love affair with the automobile, the future of public transport also favoured the road-based rubber tire mode—the bus. For Brisbane, the rest was history.

BACKGROUND INSTITUTIONAL LANDSCAPE

For the past 25 years, southeast Queensland's transportation network has been shaped by the region's institutional landscape. To this day, it remains a powerful influence on how planning is conducted, who drives projects and how the transport system evolves. This section provides a short background on the relevant historical aspects of transport in the region. Its purpose is to describe the institutional environment into which the concept of light rail was first introduced in the early 1990s.

Context

Brisbane is a municipality of nearly 700 km², with a city council headed by a popularly elected lord mayor. An Act of Parliament gives the Brisbane City Council (BCC) a degree of institutional independence on transportation matters within the region. Additionally, BCC has responsibility for much of the road network within its boundaries. In the context of light rail, this means it has overriding responsibility for curbside access, the provision of inner-city curbside parking facilities and the approval of all bus stops and bus layover facilities in the inner city area. A proposal that would have a material impact on the operations of traffic and access in Brisbane must therefore gain the support of BCC to proceed.

Brisbane's public transport is provided by the BCC municipal bus fleet and the state government's Citytrain operation. Both are heavily supported by the state government's department of transport in the form of operating subsidies and capital funding. The Minister for Transport, through the state department of transport, is ultimately responsible for the provision of all public transport services throughout Brisbane and the surrounding region. In practice, this involves medium- and long-range network planning; awarding, managing and funding public transport service contracts; and funding selected capital investments in supporting infrastructure and fleet and rolling stock enhancements. BCC also provides operating subsidies and capital injections into its municipal bus operation.

Consequently, the Lord Mayor of Brisbane is pivotal in all decisions affecting the functioning of the city. As BCC also operates the municipal bus service, the extent of its influence on road-based transportation investment and operation becomes readily apparent. With BCC's preference for undertaking transport planning activities within its boundaries, any unaligned overlap between state and BCC planning activities can require vigorous negotiations.

Early Development

Soon after the removal of the last Brisbane tram, the state government commissioned Queensland's first major study of public transport for the region. Key recommendations from that study included an upgraded heavy rail system with a comprehensive system of park-and-ride sites and a heavy emphasis on reorganizing the region's bus services to act as feeder services to a number of upgraded rail stations. The study also recommended establishing a single coordinating authority to oversee future government investment in the public transport network and to ensure the public transport network developed as an integrated system. In 1975, the Metropolitan Transit Authority Act was proclaimed and the Authority became a reality.

The Metropolitan Transit Authority (MTA) was effective in funding a comprehensive network of park-and-ride sites at a large number of stations on the heavy rail network, the electrification of the suburban rail system, limited bus priority treatments and some fleet acquisitions, and a number of other local public transport initiatives. The relationship between the MTA and the region's two major public transport operators was, for the most part, cordial, as long as MTA funding for system capital works continued. On the broader issues of network planning and integration, the setting of service levels and all operational aspects, both the rail operator and the municipal bus operator continued to maintain their independence from the MTA and from each other.

The MTA had a short life, and in 1978 the Act was repealed. Responsibility for planning and developing the rail and metropolitan bus system remained with the individual operators; however, the state government retained oversight of the number of private bus operators

servicing the shires surrounding Brisbane. Thus from the beginning, the state government has provided funds for capital improvements, rolling-stock acquisitions and operating subsidies, but has had little success in developing a network which reflects an integrated system of bus and rail services, each working together.

In the early 1990s, the state government became concerned at the increasing levels of congestion and the inability of the current transport system to accommodate the needs of the traveling public. At the same time, BCC became aware of the reported successes of the “busway” concept in Ottawa. BCC saw the busways as a means of reigniting a declining public interest in the bus system while providing a much needed improvement in operational reliability and accessibility. Since the state government would, in all likelihood, fund the busway network, BCC lobbied strongly for this concept to take centre stage.

The state government subsequently prepared the Integrated Regional Transport Plan (IRTP). This plan sought to lay the blueprint for future development of the region’s transportation systems until the year 2025. Key findings from this study included developing a 75 km busway network, heavy-rail enhancements and a raft of road network improvements. The key message from the IRTP was that the steady decline of public transport mode share—from some 13% in 1969 to 10% in 1980 to some 7.5% in 1992—was unsustainable in the long term. A \$700 million busway network scheme became the centerpiece of the IRTP. Given the state government’s previous funding emphasis on the heavy rail network, this shift in funding for buses was welcomed by BCC.

It was in the initial planning for the IRTP that the concept of light rail was first raised.

STRIKE 1—BRISBANE LIGHT RAIL TRANSIT PROPOSAL

Context

In the early 1990s, the central area of Brisbane was being earmarked for substantial development investment as demand for high-rise inner-city unit development gathered pace. In parallel with this, the development potential of a number of inner city precincts was also being recognized, and BCC’s urban renewal task force teams were established to guide ongoing investment in these areas. One area in particular was well placed for urban renewal investment — the inner northern precincts of Fortitude Valley, Teneriffe and Newstead. As part of the planning for the urban renewal process, BCC undertook a number of investigations, which resulted in the recommendation that “A light rail transit (LRT) system should be installed as soon as feasibility is established and funding is available to connect Newstead, Teneriffe, and Fortitude Valley with the CBD (central business district)”.

Proposal

Examined in detail in 1992, the proposal was for a light rail linkage between the Newstead urban renewal project and the CBD. The plan also provided for a link to the city-based University of Technology and a possible future link over the river to the redeveloping West End precinct. The route through the CBD sought to link the retailing, commercial, financial, and government-office precincts into a single inner-city loop. The route alignment proposed is shown in [Figure 1](#).

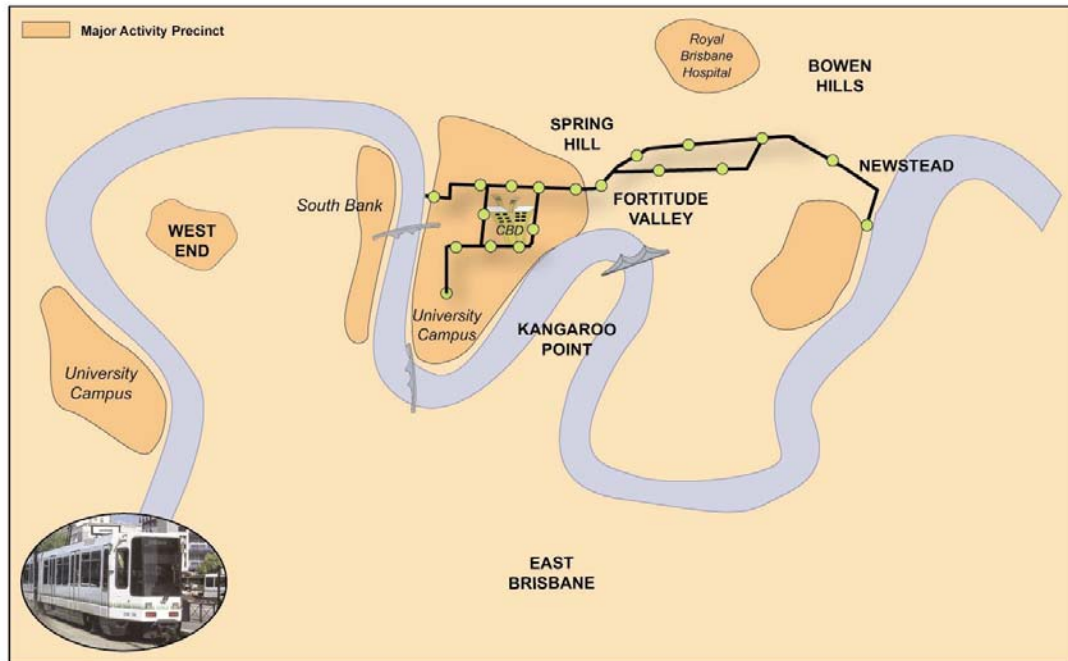


FIGURE 1 Brisbane LRT proposal

Technical Issues

The study examined the various modal options available as part of the selection of light rail as the preferred mode. It also addressed alignment planning criteria, elements of track design, and traffic impact issues. Detailed patronage forecasts were part of the study, as were estimates of construction and operating costs. At that time, BCC regarded the study as a major project, aimed at delivering a landmark transport system. During the study, the local tramways museum expressed interest in operating a heritage tram along a proposed route extension into New Farm, on the basis that council provided funding. The study also included an assessment of possible future extensions into the suburban corridors as part of a longer term, Brisbane-wide initiative.

The proposal was driven by BCC, although the state government continued to maintain legislative responsibility for any approval for a new mode operating in mixed traffic conditions. For council, the main game was urban renewal—not transit systems.

Institutional Issues

The project steering committee included representation from BCC, Queensland Rail (the heavy rail operator) and state treasury. Originally raised by council, the concept emerged as a low-profile proposal on the back of a substantial urban renewal agenda. The proposal failed to impress Queensland Rail, and Queensland Treasury remained unconvinced of the financial viability of the project, given the low patronage levels forecast for the project (10,000–15,000 passengers per peak hour per direction). Nor did it capture the imagination of those in the state department of transport who were preparing the regional transportation plans at that time. Council didn't have the resources to fund the project, Queensland Rail was skeptical, and Treasury remained unconvinced of its worth. Despite considerable private sector interest in the proposal, the state government remained reluctant to offer the necessary funding. The Lord Mayor at that

time was focused on urban renewal, urban liveability, and the development of local-area community development plans. With transport planning for the long term being progressed by the state government, BCC lost interest in the proposal.

Meanwhile, the state government was grappling with the prospect of a new regional busway (also being actively promoted by BCC) as a centerpiece of the emerging Integrated Regional Transport Plan. The prospect of introducing an entirely new mode into the equation at this time in the planning process failed to ignite the imagination of the state government. Since the proposal did not have a champion to push it, the Brisbane LRT proposal failed to see the light of day.

Lessons Learned

The influence of BCC and the personal imprimatur of the Lord Mayor are generally regarded as prerequisites for project approval in the city. This is particularly the case for projects affecting the inner-city area. In the case of the Brisbane LRT proposal, neither the state government nor the Lord Mayor were able to provide the necessary funds. Irrespective of the project's merits or the level of private sector support for the proposal, the lack of mayoral and Treasury support meant it was effectively buried from the beginning. Council's support for the eventually successful busways concept continued without the distraction of a possible inner-city light rail proposal.

Strike 1 – and the project failed to make an impact.

STRIKE 2—BRIZTRAM

Context

In 1997, the Queensland state government announced plans to develop a light rail system that would further revitalize inner Brisbane and deliver major benefits for business, tourism, the community and the environment. This announcement corresponded with the federal government's announcement of a "federation fund" to provide start-up grants for successful projects of regional or historical significance. Given that the rebirth of Brisbane trams was an innovation that would capture the imagination of the public, provide a historical connection with the region's past, and offer a sustainable transport solution for the future, the proposal was submitted for start-up funding.

The year 2001 was the centenary of federation of Australia. To celebrate this milestone event, numerous federal government grants became available to the state governments for the development of significant projects having a historical element. To be eligible for these funds, BRIZTRAM needed to become operational during 2001 and had to include an historical element, to be achieved by refurbishing a number of the old Brisbane trams from the local tram museum and including a local training program for tram refurbishment and maintenance. With state government commitments given for these two key requirements, the proposal was subsequently supported by the federal government and received a A\$65 million start-up grant. Council was not involved in the proposal at this stage.

Proposal

The original proposal was to link the Royal Brisbane Hospital, CBD, and the University of Queensland St. Lucia campus with a modern, street-running light rail system operating on a line haul operation. These three precincts were, and remain, the largest, single-trip attractors in the greater metropolitan area. The proposal planning and impact assessment process was announced and proceeded with stakeholder workshops, community awareness programs and technical analysis. Alternative routes were explored, a preferred route alignment and operational plan was developed, and detailed community consultation commenced. The proposal was costed at approximately A\$250 million; would carry some 45,000 passengers per day; and would be built, owned and operated by a private consortium under contract to government. The project was to help the IRTP achieve its aggressive mode share targets set some 5 years previously. The route alignment proposed is shown in [Figure 2](#).

Thus, BRIZTRAM was a project with a dual purpose. It was being promoted as both a sustainable transport solution and a historical tramway which would provide the catalyst for returning tramway engineering skills to Brisbane through a project-sponsored training program for a local tramways historical society. Once again the local tramways historical society became involved in the proposal. The concept was marketed as a link with the past. This strategy aimed to capture the imagination and support of those residents who remembered the Brisbane trams of old.

Community reaction to the proposal was mixed. At the broader level, many residents supported the concept. However, for the residents of West End precinct where the alignment would pass through a commercial district, a degree of resident opposition emerged. The desire of the local

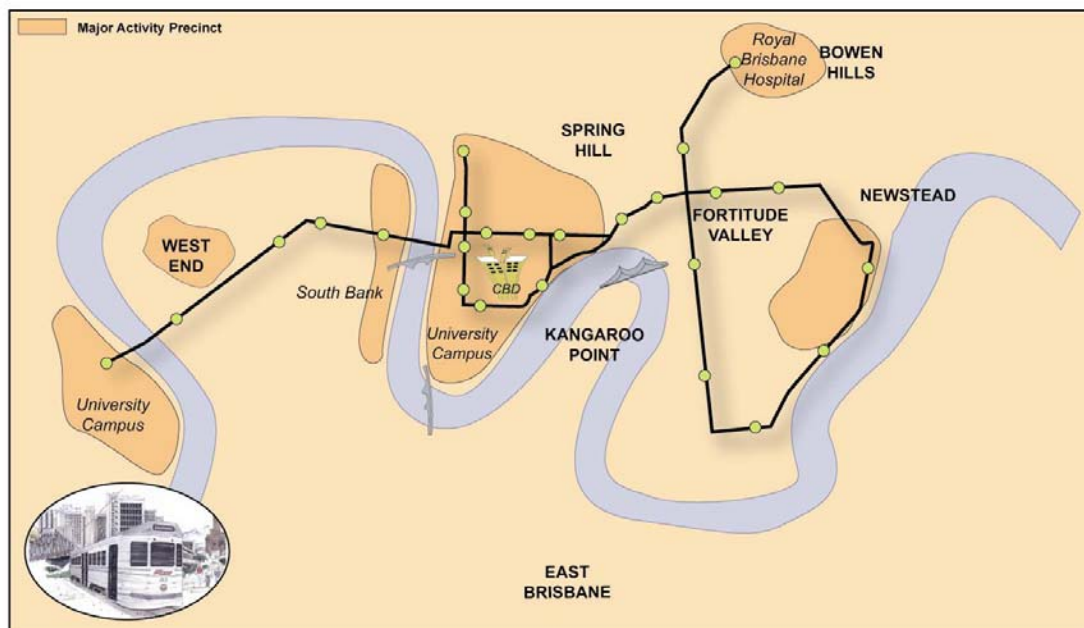


FIGURE 2 BRIZTRAM proposal

community was to maintain a local village ambience; the BRIZTRAM proposal was seen as destroying that atmosphere. Also at that time, the BCC had been championing the virtues of limiting the number of river crossings as a means of enhancing the river vistas of the city. As the BRIZTRAM included a bridge across the river to the university, local groups committed to the no bridge sentiment rallied in opposition. BCC did not become involved in the project, observing these developments from the sidelines.

Technical Issues

The vehicle fleet proposed was a combination of modern, low-floor and older, refurbished Phoenix trams from the local tramways museum.

Key technical issues in the debate during the study included:

- The use of old trams with a draw-down power requirement of 600vDC. The preferred arrangement from both the study consultants and a number of vehicle manufacturers was the common 750V/dc. Support for the former voltage came from the tramways historical group, keen to have the old trams back working the streets again.
- The pressure to resurrect some of the old trams and introduce them onto the system. There were vehicle safety concerns and the high floor was considered to be at odds with recent legislation that required barrier-free access to new transport infrastructure.
- The carrying capacity of the existing inner city Victoria Bridge. This bridge was originally designed for rubber-tired vehicular traffic, and there was doubt as to the rigidity and carrying capacity of the structure for the heavier light rail vehicles (LRVs).
- The difficulty in colocating a light rail alignment with a proposed busway in the Cultural Centre precinct in the South Bank area. At that time, the planning of a south-east busway was well advanced, and state government commitments had been given regarding its funding and delivery. BCC, as the municipal bus owner and operator, was anxious to see the opening of the busway in its original form and on time (Figure 3). The introduction of light rail into the project delivery phase was viewed as a distraction.
- The gauge. At the time of the study, the experiences of dual-mode operation in Karlsruhe and Saarbrücken (Europe) were becoming more widely appreciated. There was a view that, in the longer term, some of the lightly loaded sections of the heavy rail network would be better served by a dual-mode light rail operation. Consequently, the debate over whether the old standard-gauge trams should dictate the future or whether the narrow gauge of the metropolitan heavy-rail network should prevail continued throughout the study.
- The prospect of a river crossing from West End to the University of Queensland St. Lucia campus. This became a major project hurdle. During the mid-1990s, river crossings had become a politically emotive issue. Inner city communities opposed additional river crossings in order to protect local amenity from the unwanted incursions of through traffic. BCC supported these views. West End was one such community that made its views known very stridently. Furthermore, the University of Queensland and a local rowing club continued to express concerns over the effects of a bridge crossing in the area on the grounds of safety (rowers running into pylons), the visual impact, and station footprint requirements on campus. These three issues were central to the eventual failure of the project.



FIGURE 3 South–East busway at Southbank

- The effect of modal competition. BCC, which also operates a fleet of buses and river-based ferries between the city and the university, became concerned at the potential loss of revenue on the existing university services. Issues of compensation should the light rail project proceed were raised by BCC during the study.
- Traditional technical issues, such as alignment planning, utilities and plant relocations, clearances, traffic management, construction costs, and vehicle specifications. Reviewed as part of the detailed technical assessment process during the study, these issues were being considered in detail for the first time in some 40 years and the state government needed to be confident that it understood the detailed technical aspects of a new technology in an inner-city environment.

Institutional Issues

The state government was determined to deliver this project. This was partly a result of the “can do” attitude of the then state government, and partly due to a sense of urgency that, because it was a minority government (relying on the support of an independent member for a majority in Parliament), it had to deliver. There were also emerging concerns that, just having signed off on the IRTP, where busways were to be the dominant feature of Brisbane’s future investment strategy, the government had suddenly decided to change tack to promote light rail. It needed to demonstrate achievement.

BCC was ambivalent about the concept of a comprehensive light rail network in the city centre and observed the emerging West End community battle over the proposed bridge to the university with interest. The broader community knew at the time that council opposed additional river crossings. Generally, the wider population supported this view, such had been

the level of public debate and opposition to additional road building at that time. Convincing the local residents that cars would not be permitted to cross the bridge became the key issue.

The concept of a “green” light rail bridge then emerged. This concept, aimed at capturing the mood of an environmentally sustainable transport solution would only permit light rail, cyclists and pedestrians across the river. It quickly became the central focus of the entire project as the local community challenged the state government's commitment to guaranteeing cars and other road-based vehicular traffic would be excluded from the bridge.

Despite state government assurances that other road-based traffic would be excluded from the bridge, the community's concerns were not satisfied. BCC's subsequent requirement that the “green” bridge be authorized to carry the municipal bus fleet no doubt contributed to the community rejecting relevant state government assurances. This became a major project issue.

The second major issue that sealed the fate of the BRIZTRAM project was the influence of the busways proposals current at that time. Just prior to the release of the BRIZTRAM concept, the state government had been presented with the results of a council-managed study for an inner northern busway (INB) project. The INB was, at the time, considered essential to complement the operations of the South–East busway and continue the delivery of the 75-km regional busway system outlined earlier in the IRTP.

The significance of the INB in relation to the BRIZTRAM project was that the INB project proposed an underground alignment and supporting busway station through a council-run public car park. The loss of car-parking revenue should the INB proceed as planned was of concern to BCC who felt it should be compensated for loss of parking revenue. The issue of compensation was subsequently raised and relations between the state government and council were tested.

However, despite the progress being made on the proposal, a state election was suddenly held in 1998. The conservative government lost office and the incoming Labor Government was not prepared to continue with its predecessor's BRIZTRAM proposal, particularly as one of the new Labor ministers represented the West End constituency and had (when in opposition), opposed the BRIZTRAM crossing the river to the university through the constituency.

Lessons Learned

Although the BRIZTRAM was fundamentally a sound proposal and had the support of a large number of Brisbane's residents, the lack of cohesive and unified support by both state and council leaders contributed to its delays, targeted community opposition and led ultimately to its demise.

Throughout the project, the state government sought to maintain tight control and to limit the involvement of other government bodies, particularly BCC. This was despite BCC's initial pledge of some A\$14 million for alignment enhancement and complementary measures at key locations. In the end, the lack of willingness to share jointly in what was a landmark project would emerge as a prime reason for the collective failure of the state government and BCC to champion the project. In the end, with the change of government, this all became academic.

Strike 2—and the project was shut down.

STRIKE 3—BRISBANE LIGHT RAIL

Context

After the 1998 election, the new state government took some 6 to 9 months before allowing the concept of an inner-city light rail to resurface. Once this occurred, it became clear that considerable work had been done to “rebadge” it as an entirely new concept. This was despite the mode servicing essentially the same inner city area.

The discussion paper prepared by the state government listed the following matters as the contributors to the failure of the BRIZTRAM proposal:

- The speed at which the project was being progressed and the limited time allowed for adequate planning and consultation, particularly with key stakeholders such as BCC;
- The plan to use the old heritage trams in the fleet;
- Lack of integration and coordination with other modes (the BRIZTRAM proposal was perceived to have been superimposed on existing highly patronized services without due regard to integration opportunities); and
- Failure to address the issues of LRV priority and impacts on traffic.

Based on the research carried out earlier on the BRIZTRAM project, the state government had the capacity to undertake some preliminary concept alignment and operations planning. For example, a route network had been set, the track alignment along most of the proposed network had been determined, and the operating strategy had largely been identified.

By the time the Brisbane Light Rail (BLR) proposal emerged, considerable progress had been made on the South–East busway (Figure 4) and indeed an inner northern busway. Together, these two busways would link the northern and southern Brisbane bus networks and provide a substantial benefit for municipal bus operation as well as the travelling public. BCC was keen to see the investment in busways continue, despite growing state government concern over the costs of such infrastructure.

Proposal

The pretext and differentiating feature of the BLR from the original BRIZTRAM proposal was that, unlike the latter which had a line haul function, the BLR was to be developed as a central-city distribution network. The BLR would service three inner-city railway stations (Brunswick Street, South Brisbane, and Roma Street) and three busway stations (Cultural Centre, Roma Street, and RBH). It would essentially act as an inner-city distribution mode for the growing number of CBD visitors coming into the city center by the busway and the region’s heavy-rail networks.

From a network perspective, this proposal included an 11.5-km network with six terminals and 30 stations. It was indeed planned to operate as an inner-city distribution system. It was proposed to serve the key trip attractors of the city-based Queensland University of Technology, the Royal Brisbane Hospital, the emerging Newstead urban renewal project, the West End restaurant precinct, and the South Bank Cultural Centre. It was proposed as a street-running system, with a mixture of segregated and shared alignment sections. It was generally proposed to be a two-way operation throughout the city streets. And in the Fortitude Valley precinct, it was proposed to operate the network as a one-way couplet to complement the one-way street system operating through that area.

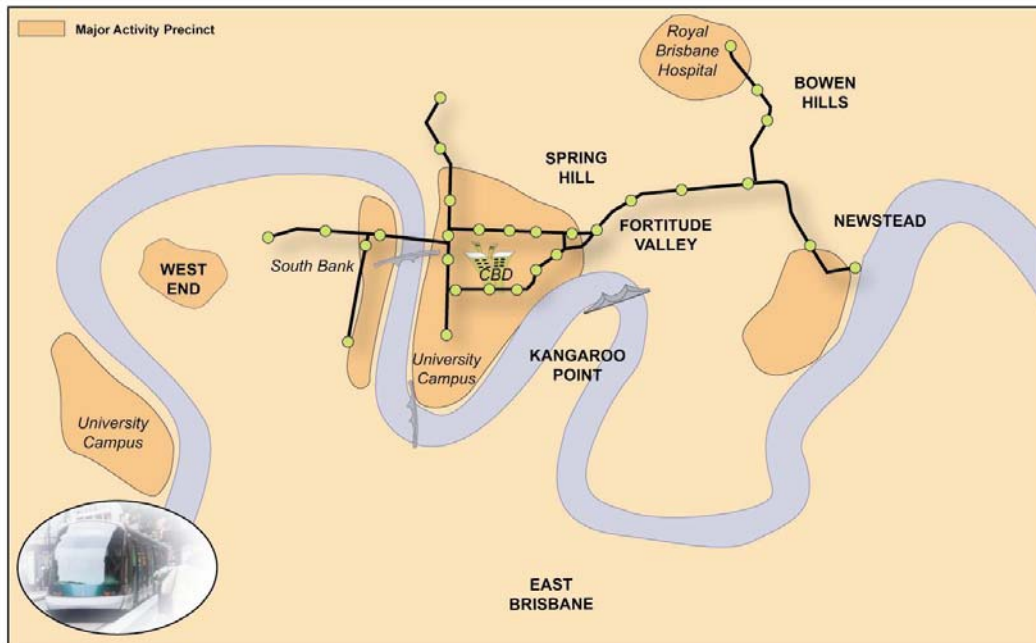


FIGURE 4 BLR proposal.

The stated objectives of the BLR were to:

- Enhance the inner city environment with improved urban design;
- Increase overall use of public transport and contribute to the IRTP mode share targets;
- Improve local air quality and reduce other environmental impacts of traffic in the city;
- Make public transport more permanent and increase its accessibility and understanding;
- Improve circulation of shoppers, workers, and tourists within the central city area;
- Stimulate development in the city, Valley, New Farm, and West End precincts; and
- Provide for extensions of the BLR on to the suburban rail network and into suburban environments.

At the outset, the impact of the West End community opposition to the BRIZTRAM was well noted. The initial discussion paper prepared by the state government noted the proposed new network does not pass through the West End area and therefore the concerns raised by the West End residents are removed.

Having undertaken a substantial amount of public consultation and having raised the concept of light rail in the public consciousness during the previous BRIZTRAM study, the BLR sought to concentrate on a range of technical issues, some of which remained unanswered due to the cutting short of the earlier study. These included:

- Wheel profiles—for possible future dual-gauge running in street and on the heavy-rail network;
- Modal integration—to connect the developing busway services and ferry network into the light rail system. In this case, the focus was more on the impact the light rail would have on the existing bus and ferry contracts held and funded by the state government;

- Detailed track and station design issues, such as structure gauges, signaling systems, design loads, and rail fixing techniques;
- Low-profile rail and rail-fixing options for the link over the Victoria Bridge;
- Operations plans, traffic impacts, environmental impacts, and construction schedules; and
- Revenue and cost estimates.

Once these and other technical issues had been addressed, expressions of interest were invited for the construction and operation of the system. The state government continued to lobby the federal government to provide the A\$65 million federation grant for this proposal as it had done for the BRIZTRAM project.

Institutional Issues

The planning and assessment study for this project was managed by the state government. BCC's involvement was generally kept to a minimum and limited to consultation on technical issues where and as necessary. At state government level, there was a strong sense of wanting to have this project succeed, especially since the previous state government's BRIZTRAM proposal was unsuccessful.

While the study proceeded, the South–East busway was being built and planning for the inner northern busway proceeded along in readiness for future funding from the state government.

It was during this study that the notion of a colocation of light rail and busway operations emerged as a possibility for the future. This was a new twist from the earlier BRIZTRAM proposal which had identified opportunities to convert low-volume heavy-rail lines to light rail. BCC, as the owner of the municipal bus operation could see light rail becoming a preferred funding mode from a state government perspective, particularly as the South–East busway alignment was designed to accommodate light rail in the future. It seemed that another competitor for state government public transport infrastructure funds was emerging.

Council by this time was aware that the Property Council was expressing concerns over potential construction impacts on access to many of its members' inner-city properties. The Property Council, which was and remains an influential force in city development issues, saw the light rail as a “problem child” and proceeded to oppose it. The media ran with the story despite the state government's proclamations of it being a most worthy project. BCC continued to observe these developments with interest.

Notwithstanding this opposition, the project proceeded to the expression-of-interest stage. Four consortia expressions-of-interest were received. Detailed evaluation followed. However, the private sector felt the unresolved project risks (revenues, costs, public opposition, etc.) were high and the bids came in well in excess of government expectations. Unable to proceed further with the project because of these costs, the state government advised the consortia that it was withdrawing the expression- o- interest.

Lessons Learned

The BLR was a substantial project. It attempted to build on the curiosity and initial support garnered by the BRIZTRAM project. However, because of a lack of united approach and commitment at both the state government and city council level, the opportunity arose for a third party to rise in public opposition to the project (the Property Council).

While technically feasible, the BLR suffered from a financial feasibility perspective. All that was needed to place it out of reach of the state government's limited budget was to increase the perception of unresolved risks to the project. Bidding consortia would view these unresolved risks as costs and raise the contribution required from government accordingly. The Property Council opposition and BCC's non-involvement in the project contributed to the perception of unresolved risks. With the withdrawal of expression-of interest documentation by the state government, the consequence was inevitable.

Strike 3—and the project was abandoned.

STRIKE 4—GOLD COAST LIGHT RAIL

Context

The coastal resort city of Gold Coast lies approximately 50 mi south of Brisbane (see [Figure 5](#)). In 1998 Gold Coast City Council (GCCC) released its own Integrated Transport Plan (ITP). This plan built on the state government's IRTP but focused on the transport imperatives at the local government level. Part of GCCC's plan was to develop a line haul public transport system, linking with the heavy rail network which ran from the west of the main tourist and residential coastal strip to Brisbane. Out of this, the Gold Coast Light Rail was born.

The city of Gold Coast is Australia's premier tourist destination. The heart of the city, Surfers Paradise, contains high-density accommodation ([Figure 6](#)). Increasing urban sprawl to the west, combined with Surfers Paradise being the heart of the Gold Coast district, has led to severe traffic congestion in this constrained coastal strip.

Proposal

The proposal calls for a light rail alignment running from Pacific Fair, a major regional shopping complex at Broadbeach, northwards through the heart of the Surfers Paradise precinct, over the Nerang River to Southport, and westward via the Griffith University campus to the metropolitan rail network at Parkwood. The line is some 19 km in length, includes 17 stations and is generally street-running ([Figure 7](#)). At the time of writing this paper, early patronage estimates suggest a daily passenger demand exceeding 33,000.

Technical Issues

Due to the previous three attempts at light rail, there was a reasonable body of expertise capable of addressing any technical issues associated with this proposal. Major issues addressed early in the study included:

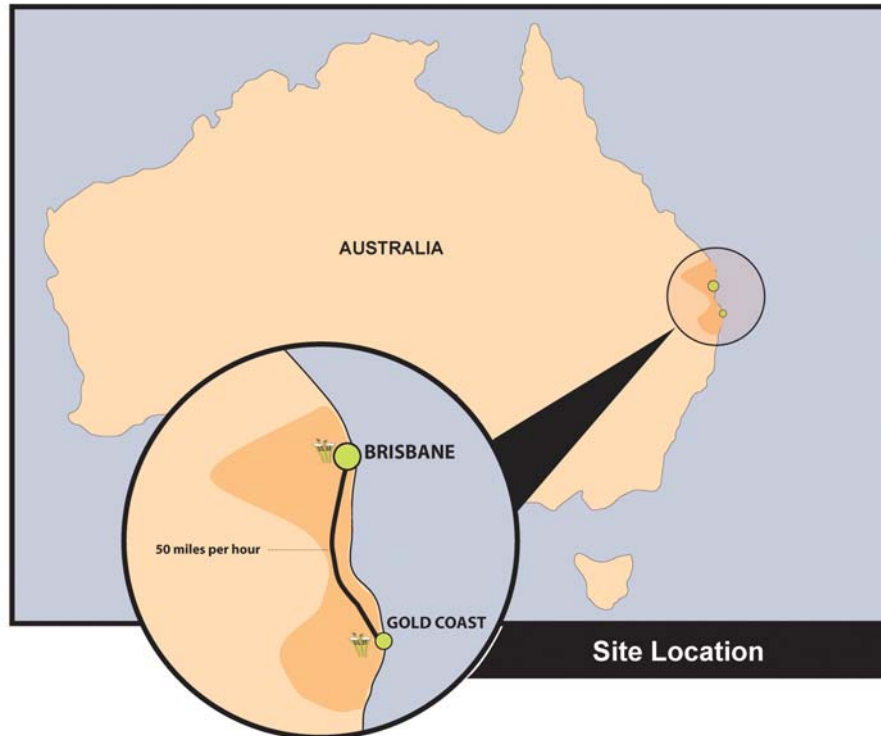


FIGURE 5 Gold Coast and Brisbane Regional Context



FIGURE 6 Surfers Paradise

- The interface with the Indy 300 track;
- Addressing of costs;
- Community alliances; and
- A strong emphasis on proving the financial viability of the proposal.

Institutional Issues

Funding for this project is being provided by a combination of local, state, and federal government. In Australia, this situation poses unique challenges. There is, however, tremendous local government support for the project, far greater than the degree of aligned political support

seen at any level for the previous three proposals. At the same time, public–private partnerships (PPP) opportunities are being aggressively targeted by the state government, and a flagship transport PPP is being sought to spearhead this new method of infrastructure delivery. This comes at a time when the federal government is actively shying away from public transport and toward roads, rail, and freight in the transport portfolio. But light rail has proven to be about more than just transport, and opportunities exist for this project to be seen as a regional development and tourism catalyst from the federal government perspective.

It becomes apparent that institutional issues dissolve very quickly into funding issues. Who funds what and gets what back is likely to become a topic of much debate as the project evolves.

Initial Findings

The feasibility study has passed through its first stage and recommended that light rail is the most appropriate mode of line haul public transport for the coastal fringe. At a capital cost of A\$300 million–A\$400 million and expected patronage in excess of 50,000 trips per day in 2011, it was deemed that there was sufficient confidence to warrant more detailed investigations.

These more detailed cost estimates, patronage modeling and risk assessments are progressing.

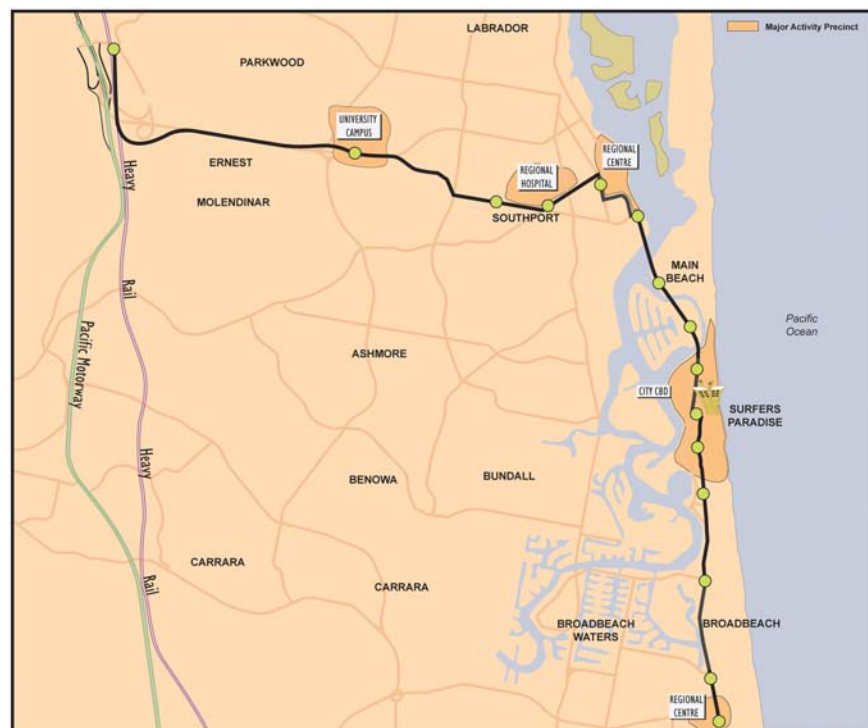


FIGURE 7 Gold Coast light rail proposal.

Challenges of the Gold Coast Proposal

Based on the disappointing outcomes from earlier attempts at establishing light rail, the state government adopted a cautious approach to this latest proposal. For them, the essential question had to be proving the financial viability of the project. Having withdrawn the BLR from the tendering process after private sector interests had invested substantial monies into bid documentation, the state government was not prepared to have its light rail project credibility questioned further. On the other hand, the GCCC remains optimistic over the financial merits of the proposal. Based on these stakeholder views, the key challenges for the proposal, as implied in the project brief included:

- Financial feasibility of the project must be proven.
- Government is not willing to go to the private sector for funding without being sure that there is adequate private sector interest.
 - The project must ensure local communities are supportive.
 - The GCCC must actively support the project.
 - The project must be able to demonstrate a capacity to act as an image maker while the GCCC continues to develop.
- Knowing that this time there might be a good chance of success, the financial impact on the local bus service contracts needs to be clearly established.
- The state government will settle for nothing less than a robust assessment of the true costs and revenues from the system.

As can be seen, these issues focus on essentially non-engineering and technical issues, and reflect the maturing of attitude towards establishing light rail as a viable mode in Queensland—a decade after it was first proposed.

Prospects for Success

Every new project has its own unique dynamic. In this case, while the community is well aligned and supportive of the project, the interagency issues remain. At the time of writing, there is some concern being expressed over the possible impact of light rail on the operations of the local bus service provider. This is probably a reflection that industry is taking this proposal seriously. In the end, government funding will be the key to the project's success. If the financial resources of the state government and GCCC are adequate, the project has a good chance of success. If federal funding is required, the future of the project may be less certain.

LESSONS LEARNED

These case studies have highlighted three key lessons:

Project Politics

Queensland's light rail project experiences over the past decade coincide with the view expressed by Hass-Klau et. al¹ that political decisions take center stage when transport decisions

are being made. Technical considerations and project justification are often secondary considerations. In the Queensland case, the institutional and political contexts in which the various proposals were conceived, promoted, and dismissed clearly had an overriding influence on the proposal outcomes. If there is any major lesson to be learned from the proposals examined to date, it is that political leaders and relevant agencies all need to act as one, presenting a unified and proactive message about the project. While political support from stakeholders may vary according to individual agendas, this is not a concern as long as the project support and stakeholder relationships can be sustained over a number of years. For a light rail project, this partnership needs to be robust for at least 7 years to allow for the initial study, calling of expressions-of-interest, project construction, and through-commissioning. History has shown that the political landscape in Queensland presents major challenges in developing these long-term relationships.

Light rail is an expensive option and one that should be entered into with a deep commitment and pockets to match. Key political stakeholders will continue to support a project only if it supports their agenda for the future. This does not necessarily mean that each level of politics that is contributing will have the same agenda or needs from the project. In fact, they are very likely to be different because the motivators for each level are also different. What is needed is an understanding of what all potential contributors want to gain from the project and to tailor the light rail project specifically to achieve these needs.

Project Fundamentals

The proposal needs to have a unique and sustainable attribute, which “simply makes good sense.” The BRIZTRAM proposal had a substantial line haul component that offered a distinct travel advantage over existing travel options. In this case, the alignment linking the University of Queensland St. Lucia campus to the city centre would have provided a substantial travel-time benefit for this travel market. In contrast, the BLR, with its six terminals and 30 stations over an 11.5 km network failed to provide a viable addition to the transit network. The earlier Brisbane LRT proposal also failed to have a logical role in the network, given the costs involved. In the case of the latter two proposals, the market for an inner-city distribution network simply did not exist to the extent hoped for. For a project to withstand public scrutiny, it needs to have a simplicity and common sense about it.

Public Readiness

It is not unusual for initial light rail proposals to falter due to lack of public support. In many instances, it may be through a lack of appreciation of the nature of the mode. In other cases it reflects a concern over the perceived short-term impacts (e.g., construction) or the perceived consequences of a new light rail system in the network (e.g., during construction). It is important for a promoter to ensure the public is ready for the project. Public education, debate, and proactive involvement are essential. In the case of the BRIZTRAM proposal, it is doubtful that the public was ready for the new concept, in spite of sections of the community remembering the Brisbane trams of old.

The Gold Coast light rail project has attempted to address each of these key issues to promote and increase the likelihood of proposal success. Time will tell if this strategy is successful.

NOTES

1. Bus or Light Rail: Making the Right Choice. Report for the Environmental and Transport Planning Department (U.K.), 2000.

REFERENCES

1. BRIZTRAM, Needs and Justification Report, PPK Environment and Infrastructure Pty Ltd. 1998.
2. BRIZTRAM, Outline Specifications, Working Paper No: 2. PPK Environment and Infrastructure Pty Ltd.
3. BRIZTRAM, System Performance and Operations, Working Paper No: 1. PPK Environment and Infrastructure Pty Ltd.
4. BRIZTRAM, Financial Analysis Study, Booze Allen & Hamilton (Australia) Ltd, 1998.
5. BRIZTRAM, Invitation for Expressions of Interest. Queensland Government. 1998.
6. Brisbane Light Rail Network Preliminary Feasibility Study. Queensland Transport. 1997.
7. Brisbane Light Rail Planning and Preliminary Impact Assessment Study, PPK Environment and Infrastructure Pty Ltd, 1999.
8. Gold Coast Light Rail Study, Stage A: Needs and Justification Report. Parsons Brinckerhoff Pty Ltd. 2002.
9. Gold Coast Light Rail Study, Stage B: Option Development Report. Parsons Brinckerhoff Pty Ltd. 2003.
10. Shaping a City: Brisbane 1925-1985. J.R. Cole. William Brooks, Queensland. 1984.