

The Case Fraser Island Light Rail Feasibility Study

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Transportation on Fraser Island has long been a concern for FIDO. The increasing size of the buses has led to widening of the roads. This has led to loss of canopy, desiccation, and erosion in heavy rainfall events. FIDO estimates that over a tonne of sand is relocated for every visitor to Fraser Island. This sand forms alluvial plumes smothering vegetation and some flows into waterways and lakes. This is unsustainable and needs to be urgently addressed.

The 1994 Great Sandy Region Management Plan has ruled out the hardening and sealing or gravelling of any more Fraser Island roads other than the former mining road from Hook Point. This policy continues to be strongly supported by FIDO and 4WD groups. The environmental impacts of such roads in an environment such as Fraser Island cannot be justified.

A Light Rail option: FIDO has advocated the use light rail transport as a people mover on Fraser Island since 1974. As well as being historically relevant and offering a better tourist experience, light rail is also environmentally more sustainable. Rail transport would build upon, rather than undermine, Tourism Leisure Corporation's marketing strategies, and is likely to be more financially viable than replacing the aging buses, especially if rail access becomes the major tourist access to some of Fraser Island's most popular icons.

History of rail on Fraser Island: In earlier times there were three different major east west lines operating on Fraser Island:

1905 – a line went from the mouth of Urang Creek to the eastern end of Bogimbah Scrub.

1916 – a line went from the mouth of Wanggoolba Creek to just east of Lake Birrabeen.

1918 – a line went from McKenzie's Jetty to just west of Wabby Lakes.

In 1925 the Queensland Government operated this latter line and established a link from the "7.20" (the highest point of McKenzies line 7 miles and 20 chains from the jetty on one smooth even and consistent grade) to run down through Pile Valley to the Central Station-Eurong Road. In the early 1970s dog spikes and other relics of this undocumented link could be found walking along the road through Pile Valley. It isn't known where it went beyond that point but it seems likely to have followed the Eurong road because the area south had been logged earlier.

Environmental impacts of roads: There is a strong consensus by all island stakeholders that the Fraser Island roads are deteriorating at an alarming rate. They are leading to alarming environmental degradation which hasn't been able to be effectively stopped.

Studies of the environmental impacts of Fraser Island "roads" — one by engineering environmental consultants, GH&D from Brisbane and one by Queensland University of Technology, both recognized the enormous environmental impacts of the existing road system. Both tried unsuccessfully to address the problems — QUT through some new innovations in road design. The never publicly released study by GH&D addresses the design and operation of vehicles. It proposed to recommend maximum tyre pressures especially on buses. It will mean a whole new fleet of vehicles will have to be developed within the next decade if not sooner. There will be recommendations which will effectively mean that all of the existing buses on Fraser Island will have to be replaced by new specially designed vehicles which enable them to operate at mandatory low tyre pressures. That was considered a prohibitive cost for tour operators and the report was never allowed to be completed to make such recommendations

These recommendations were only addressing the impact then occurring on roads for the existing volume of traffic. It couldn't address the long-term problem of the potential need to widen roads or to create new roads to meet the traffic demands.

Run-off from the roads is creating a major environmental impact especially when the detritus carried by the run-off ends up in lakes such as Lake McKenzie and Lake Allom. However, tonnes and tonnes

of woodchip, sand and other detritus washed from the roads can be seen in growing alluvial plumes at Lake McKenzie and Lake Allom. The water that is carrying the sand is also changing water chemistry and hydrology. This seriously threatens the integrity and a major World Heritage value of Fraser Island. It will require urgent major new works including closing and/or re-routing the existing road near Lake McKenzie to stop further degradation of the lake.

Costs of poor roads: Road maintenance is a major problem for the Queensland Parks and Wildlife Service. In 2004 the QPWS estimated it annually spent \$800,000 just on road maintenance. (Reports given to the Community Advisory Committee). This then accounted for about 20% of the total Fraser Island budget. FIDO believes the total budget is appallingly low and constantly argues for greater resources to manage the island. Nonetheless poor road conditions are resulting in rapid deterioration of the buses and creating mechanical maintenance problems for the fleet. That is an increasingly expensive problem for the bus fleet owner and we expect this cost to increase annually.

Without doubt roads are a major factor influencing the carrying capacity of Fraser Island. This is the subject of an Educational Backgrounder currently being prepared by FIDO.

The Volume of traffic: The most recent reliable visitation figures for Fraser Island were in 2007 when the Site Visitor Capacity study was being undertaken, commercial tour operators then carried 179,835 visitors or 53% of the total of 338,283 Fraser Island visitors.

With the acquisition of Eurong Resort and the Fraser Island Company, Tourism Leisure Corporation now transports the bulk of all visitors to Fraser Island on commercial tours and almost half of all visitors to Fraser Island. It has a large fleet of heavy 4WD buses that have a very big impact on the sand tracks of Fraser Island. This is one of the largest fleets of 4WD buses in the world. Operation of such a fleet on one of the most fragile ecosystems in the world is not compatible with sustainable eco-tourism.

To service the Eurong and Happy Valley Resorts Tourism Leisure Corporation needs better cross-island transport link. The incredibly high cost of maintaining the 4WD bus fleet is mainly incurred as a result of travelling on the inland "roads".

It is FIDO's view that the existing buses would continue to operate on the eastern beach with standard tyre pressure where the impact is nowhere near as severe as it is on the tracks in the interior of the island. FIDO believes that the environmental impact on the beach is most likely proportional to the volume of vehicles. Thus buses on the beach involve fewer vehicle movements than smaller passenger vehicles.

Commercial investment requires some certainty. Before any commercial enterprise would make any significant investment in this light rail proposal they would require that many of the preliminary issues had been resolved so that they could proceed to consider the options of significant investment they had at least some certainty of government support for the project as well as having a green light that would cover Native title issues.

There are four major issues that the Feasibility Study needs to address:

- 1) The route chosen that would be marketable (i.e. include Central Station and Lake McKenzie) and have both in-principle support from traditional owners and the government; the for the project and that some hurdles had been resolved to a.
- 2) That the Environmental Impact Statement of any new route had been cleared leaving only the proposal to address the environmental impact of the construction and operation of the project.
- 3) Specifications of the rail gauge required;
- 4) Exclusivity rights and terms of ownership/operation

Proposed Route

Prior to Kingfisher and Eurong merging operations, FIDO had proposed two alternative routes. One was from Wanggoolba Creek barge landing to Eurong and the other was across the island via the Bogimbah Scrub. Since then there have been preliminary discussions between FIDO and rail engineers with Tourism and Leisure Corporation's Gary Smith to discuss the route that would travel from **Kingfisher to Eurong. The route needs to pass adjacent to Lake McKenzie and Central Station.** Rail passengers coming from Kingfisher would disembark at Eurong and be dispersed in buses to various destinations such as Wabby Lakes, Eli Creek and the coloured sands.

It has been agreed that a detailed feasibility study is needed to address some of the problems in creating a viable light rail route. These include:

- While previous rail routes cover most of the distance from Kingfisher to Eurong, incorporating Lake McKenzie (Boorangoora) and Central Station on the main line requires a new route through some greenfield areas to be surveyed. Such a route needs to be acceptable to the QPWS and traditional owners. Thus it would require a detailed Environmental Impact Statement and Cultural Heritage assessment.
- Crossing Wanggoolba Creek could incur enormous cost and the environmental impact needs to be evaluated. The impact might be reduced if the rail station was located on the opposite side of Wanggoolba Creek to the old forest station.
- While much of the route would use existing roads (some of which are former rail routes) a new route would need to be surveyed from the eastern end of the rainforest through to Eurong that would meet the engineering specifications for efficient rail gradients.
- There is a problem with Kingfisher Resort being the terminus because it is surrounded on three sides by a steep slope and on the other by Great Sandy Strait. This may require a long bridge along the beach from Kingfisher Resort to McKenzie's Jetty where it could pick-up the old tramline route passing the old McKenzie's Sawmill site.

Preliminary Environmental Impact Statement and Native Title Resolution

The route passes entirely through the Great Sandy National Park and therefore it will require the approval of the QPWS to even work on the line. No accurate detailed costing can be done without a route having been determined and approved by the QPWS. It is therefore FIDO's contention that the QPWS should actually establish its preferred route for the light rail and that they should have at least gained in-principle Native Title support for the project to enable a more detailed examination of the route to be assessed for construction costs. Potential investors would not like to discover that they had to make unexpected variations because of previously unforeseen environmental concerns. Thus it would seem most appropriate that QPWS should set the route and clarify the position of the traditional owners through the newly established Butchulla Aboriginal Corporation PBC for the preferred route before proceeding to the next stages of the study.

The preferred rail gauge

There is a vast difference in the cost of building and operating a cane gauge (2-foot) line and a heavier (3-foot 6-inch) gauge. The specifications of the rail line depend on the volume of freight to be carried. A cane rail gauge (2-foot) would be adequate to carry the passenger volume. Intuitively there has been a predisposition to adopt a cane gauge system.

There have been two preliminary estimates of cost of this light rail using a cane gauge. In 2002 GHD estimated (pp100) of the Indicative costs for the light rail are: *"Total construction and rolling stock acquisition cost are estimated to be in the order of \$15M, while the operating costs are expected to be of the order of \$1.8M per annum excluding marketing costs."* Two years later FIDO received a similar cost estimate from rail engineers from Downer. Their estimate was based on using redundant used rail lines and ex-cane train rolling stock. It was then estimated that the route would be probably about 22-kilometre-long and if it was built using the same gauge as cane trains, the line would cost

about \$7million excluding the cost of any bridgeworks. (This assessment is without having carried out any on ground surveys or assessments). Using the cane gauge lines, the cost of rolling stock could be slightly less than \$3 million.

The problems with a cane gauge are the limitations of the volume and weight of freight that could be carried on it. While the cane gauge could carry some light freight using some form of containerisation if the volume of freight is significant the handling costs at the port require some form of roll-on roll off system and a cane gauge isn't heavy enough for that.

There needs to be a preliminary assessment of the project demand of the rail as a freight carrier taking into account the options for containerization and the possible supply of heavier freight to Eurong via the beach. This is a critical aspect to be determined by the QPWS if the Queensland Government is to own the line under the terms of agreement.

Exclusivity rights and terms of ownership/operation.

Coincidental with the decisions to invest in a capital outlay of millions of dollars has to be the consideration of what would be the terms of operations and what rights if any would the operator of this light rail gain.

There are some legitimate safety considerations that can be mounted to provide some exclusive rights. A key and critical part of the introduction of a light rail on Fraser Island would be to prohibit any road level crossings. This would be done in the interests of public safety and maintenance. The effect of sand which could clog up the rail tracks if level crossings were permitted would have many adverse consequences. Public safety is also a major issue.

Avoiding level crossings would have two most significant consequences:

- a) Banning level crossings would reduce the volume of Free and Independent Travellers (FIT) traffic to Lake McKenzie by a significant amount. Lake McKenzie would only be able to be approached from the south west (Wanggoolba Creek). Central Station could only be reached from Ungowa or the present Wanggoolba Creek ferry landing, Lake Birabeen and Eurong on what is now the east to west road. The fact that there could be no 4WD approach to either destination from the north would likely lead to a reduction in such traffic and encourage more visitors to use the light rail. Other tour operators would either have to use the light rail or take a big detour if they wanted to continue to Lake McKenzie. Alternatively, they could be directed to Lakes Boomanjin, Birabeen or Garawonagera which would ease the pressure on Lake McKenzie.

The prohibition of any level crossings would still enable vehicles from Kingfisher Resort to travel east and north to visit other parts of the island but they would not be able to visit Lake McKenzie. However, by transferring the bulk of the passenger carriage to the new light rail, e Cornwalls Break Road would be easier to maintain

- b) The other major consequence of no level crossings would be to make the route financially viable because it would provide a concession to the operator which would make it a preferred option for people to travel to Central Station and Lake McKenzie

While the main line from Kingfisher Resort to Eurong may not be viable on its own, establishing some exclusive rights for the operator in the the Lake McKenzie (Boorangoora) — Central Station area would make the whole light rail proposal a most financially attractive option for Tourism Leisure Corporation or whoever might become the operator of this service. This must be even more attractive especially when the cost of a new bus fleet to meet the foreshadowed new specifications is taken into account.

It is FIDO's view that many FIT's would opt to use the light rail shuttle service between Central Station and Lake McKenzie. The attractiveness of using the light rail is immeasurably increased if it includes destinations such as Lake McKenzie, Central Station, and Pile Valley which are Fraser Island major icons.

The need for a preliminary government Feasibility Study

For the above reasons it seems essential that the QPWS commissions a feasibility study to address those four critical aspects as a preliminary to then setting out the terms under which it would call for Expressions of Interest from the private sector. While it might be assumed that Tourism and Leisure Corporation (operators of Eurong and Kingfisher Resorts) would be a most obvious candidate to submit an EoI there are many other potential investors in such a project both within and outside Australia that might operate a rail service in conjunction with Tourism and Leisure Corporation who may continue to operate its bus services especially on the beach,

A Win - Win - Win - Win Solution

The environment wins:

- 1) There could be better environmental outcomes at Central Station and Lake McKenzie (Boorangoora). From an environmental viewpoint it would help rectify what FIDO has identified as a major problem reducing traffic to both Central Station and Lake McKenzie. This would also result in a reduced demand for parking. As well it would enable a better focus for visitors to be developed including the use of boardwalks between platforms and the main features of these icons.
- 2) Moving people by rail instead of by road at least in the most heavily used part of Fraser Island (Kgari) would help ease the environmental problems created by the unsustainable use of the two most heavily used cross island routes — Cornwalls Break and the Wanggoolba Creek — Eurong road. In GH&D's assessment of the Wanggoolba Creek to Eurong light rail they considered only the reduction of 4WD traffic on only one of the three major cross island routes. This would have a major impact on two routes. The reduction of traffic should result in a significant reduction of wash and down-cutting of the roads (and consequential sedimentation of lakes, creeks and lower ground). It should mean entirely an end to the alluvial plume extending into Lake McKenzie (Boorangoora).
- 3) The light rail would encourage more people to seek accommodation at either Eurong or Kingfisher Resorts and this has the effect of reducing the demand for camping which has demonstrably a much heavier environmental impacts than well used and well designed accommodation. (Having for many years run safaris until the mid 1980s based on free-range camping, FIDO believes that the current volume of free-range camping is unsustainable).

Visitors win:

From a visitor's viewpoint light rail is more attractive.

- 1) Light rail would provide visitors with much greater comfort and safety. There are many complaints about the rough rides people endure in travelling over the rough roads on Fraser Island. While there may be some excitement of four-wheel adventuring for FITs in buses, that adrenalin rush doesn't extend beyond the bus driver.
- 2) There is little visibility and outlook from the buses. A light rail would offer an improved outlook on the forest through which the train traverses.
- 3) The light rail and its historical significance have a romance.
- 4) It would enable visitors to learn more about Fraser Island through a much better interpretation of the island's features. A well researched and pre-recorded commentary could be played through the train's PA system. Compare the interpretation provided on Fraser Island bus tours with that of the Kuranda Skyrail.

- 5) The route includes significant rainforest and be most attractive.
- 6) It would be able to operate on a more reliable timetable.

Tourist Industry wins:

- 1) A light rail would enhance the operator's eco-friendly tourism image whereas buses are uncomfortable (on Fraser Island roads) unsustainable and inevitably will lead to limitations on vehicular size and visitor numbers.
- 2) There is enormous potential for developing new tourist products with a mix of rail to Eurong and shuttle buses on the eastern beach, especially to manage the expanding backpacker market in a more sustainable way. (Many of the existing buses though could still be used on the beach where tyre pressure and erosion has not been a problem.)
- 3) Tourism Leisure Corporation would win through increasing their number of clients as well as their carrying capacity. They would also win through economies by using rail instead of operating buses with all the associated expenses.

The Government Wins:

The government would win because

- 1) There would be a significant saving on road maintenance. One of QPWS's major responsibilities on Fraser Island would be transferred to private enterprise.
- 2) Light rail also makes it far easier to manage visitor numbers, by being able to better predict and cater for visitor usages at popular sites, to reduce the impact.
- 3) It sets a more sustainable model for tourism in Queensland national parks. (It should be noted though that private rail operates as a people mover in Kosciuszko and other Australian national parks.)
- 4) It will be seen by the public as a major move to reduce the carbon footprint of tourism and will be demonstrated to be a much more energy efficient way to visit Fraser Island.
- 5) It will address what has been its most difficult management issue on Fraser Island since the removal of the extractive industries of sandmining and logging.
- 6) It also has the capacity to increase the sustainable carrying capacity of Fraser Island.