

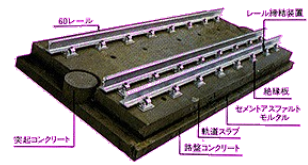
Southern Rail Tunnel - Cairns to Mareeba in 30 minutes

this proposal is part of the [CAST submission to Infrastructure Australia](#)

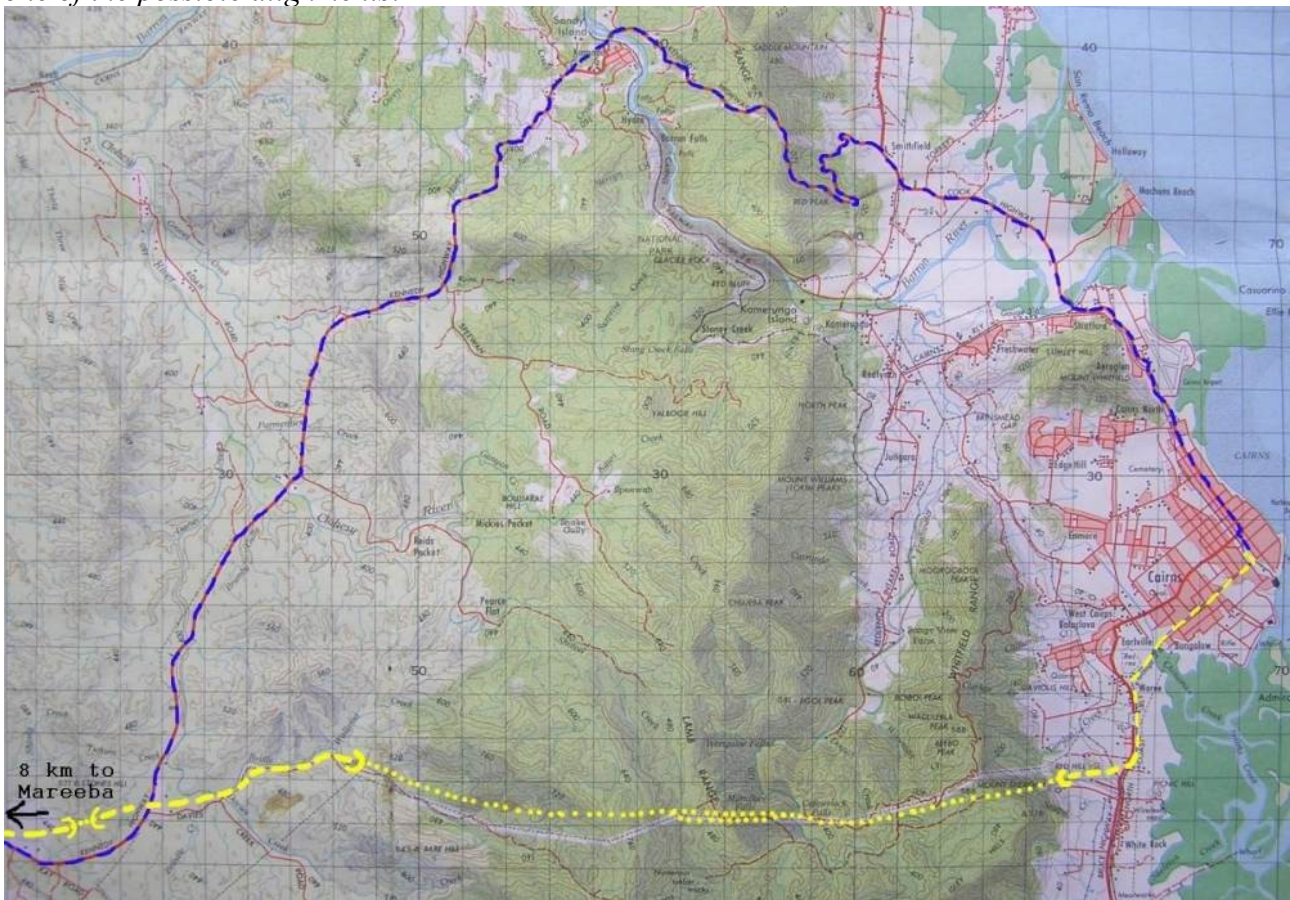
Faced with challenges like Peak Oil and Climate Change, our political and business leaders need to stop doing 'business as usual' and to start implementing real and innovative solutions, or we risk suffering significant economic and environmental losses, probably much sooner than most people think.

Features of the proposed southern rail tunnel:

- ◆ new high-speed rail link from Cairns to Mareeba, using existing railway stations
- ◆ about 16-23 km of single lane tunnel with a 2km passing section in the middle and double rail track above ground (capacity of several hundred thousand people per day)
triple gauge rail can be used to allow high speed trains on 4'8.5" gauge as well as accomodating for QLD rail's existing 3'6" trains and carriages
- ◆ drive on/off carriages for vehicles including B-doubles
- ◆ bike & ride carriages allowing people to sit in the same carriage where they stow their bike or motorbike for easy commuting
- ◆ double storey passenger carriages for high capacity
- ◆ electric motors and regenerative braking eliminate the need for expensive ventilation and significantly reduce energy requirements and greenhouse gas emissions



one of the possible alignments:

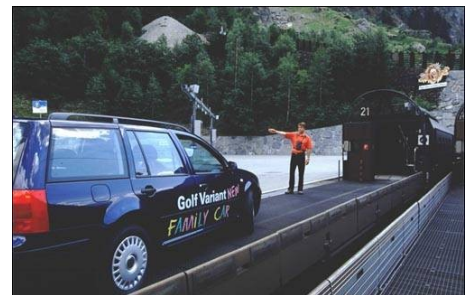


comparing the road option (blue) with the proposed rail alignment (yellow – dotted where underground) makes the savings in time and energy very obvious.

Note that without the above ground section crossing the highway, tunnelling all the way to the short tunnel on bottom left, would require ~23km of tunnel, just as in the A\$750 million Swiss project.

Cairns Southern Rail Tunnel advantages

- **reducing the distance between Mareeba and Cairns by about 15km** will provide significant savings in time and vehicle running costs to all users - about 500 million dollars over 10-15 years (@10,000 VPD) - much more with rising oil prices. For trucks or cars coming from (or going to) down south this saving would increase to over 25km (with a loading facility at Whiterock or further south)!
- **CO2 emissions will be significantly reduced** due to less distance, efficient train transport, electrification and regenerative braking
- **Significantly reduces the areas dependency on oil** and assures reliable and affordable access to and from the Tablelands
- **an extra access to the Tablelands** is valuable in case of emergencies or failure of any one access - three is always better than two
- similar tunnels in other countries have been **planned and built in 5-10 years** compared to the estimated 15-20 years construction period for the 4-lane highway option
- Can be constructed without causing any traffic delays or inconveniences on the existing range road and rail.
- can provide Cairns with a **safe and reliable evacuation route** without having to get people over flood-prone country. It could also serve as emergency shelter in case of a category 4 or 5 cyclone
- **Rail is much safer than road**, especially if heavy trucks are involved on steep gradients
- **minimal impact on the World Heritage Area** and the visual amenity of the Cairns scenic rim
- **no clearing is needed** for exploration drilling since the suggested route follows the existing powerline
- that existing high voltage powerline can be shifted into the tunnel to remove this visual scar from the landscape
- unless the proposed 4-lane-highway, which would illuminate a large part of the McAllister range at night, the southern rail tunnel does not produce any light pollution
- this **system is fully scalable** by adding more carriages or trains, a 2km passing section in the middle of tunnel or even a second tunnel
- allows the Kuranda Range Road to be closed to almost all heavy trucks, preserving it as a tourism drawcard
- the existing range road with some extra overtaking lanes and without heavy freight will probably have 2-3 times the present capacity
- with **~30 minutes travelling time to Cairns** (double as fast than by road) development can feasibly happen in the Mareeba area rather than the environmentally very sensitive Kuranda/Koah area with obvious benefits to both
- when the airport will have to be shifted to the tablelands due to demand or rising sea levels we will already have a **high-speed train connection to Cairns**.
- A single rail tunnel with 2km internal passing section can **shift up to 500,000 people a day** - 10 times the amount of people that the 4-lane highway can
- the project **can be financed with the help of private money** and a fee can be charged to users avoiding the problem of other roads, schools, hospitals etc suffering because of funding going to the 4-lane highway
- excavated material can be used to raise important coastal transport corridors above 1000 year flood levels
- **In Switzerland a 23km rail tunnel has been built for about 750 million AUSS (2006) including a 2km passing section, rail, electrification, all fittings and two trains (Rhätische Bahn, Switzerland)**



The Southern Rail Tunnel is a versatile, efficient and truly sustainable transport option, which will reduce FNQ's oil dependence and will provide a low energy and emission transport option that is reliable and fast!

An information sheet by [Cairns Action for Sustainable Transport \(CAST\)](#); Phone 0431 683 088