

A rail-based public transport system for Cairns and Far North Queensland?

Public transport, especially when powered by renewable energy, offers an opportunity to us in Cairns and Far North Queensland to set an example for the world.

We can show how to meet the threat of climate change due to increasing concentrations of greenhouse gases in the atmosphere, and the emergence of "peak oil" as more cheaply produced petrol rapidly runs out, by establishing a system of comprehensive and frequent public transport. We can preserve and even enhance our environmental attractions and lifestyle by changing our use of cars and trucks, which makes transport the greatest producer of greenhouse gases in FNQ and our cost of living rise rapidly. Public transport will also address other problems which arise from depending on cars, such as road accidents, obesity due to sedentary lifestyles, air and noise pollution, and social exclusion.



Nordhausen

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What is dual-mode rail?

Dual-mode rail operates as light rail in a region's urban areas (400-500 metre stops) and heavy rail in between and beyond them. The system is also called a "tram-train". The typical range of a tram-train system is 25-40km from a city centre.

In dual-mode rail, trams run on and share the use of train tracks. This allows under-used lines and existing tracks to be revitalised. Trains using the same track may or may not be electrified (some tram-trains are partly or wholly diesel powered).



Triple-rail track, Zwickau

Tram-trains meet mainline railway standards. Thus, they can travel at higher speeds than trams when operating like trains.

Tram-trains, compared with buses, can be easier to access and use, have permanent routes that encourage the development of a community's transit orientation, and can carry more people in regular services. Bus routes using roads might be more flexible, but to run faster and more smoothly and to carry more people, they need

busways, which are fixed. Compared with trains, tram-trains use less energy, and also accelerate and brake faster, so fewer vehicles may be required for a comparable service. Usually tram-trains have lacked amenities such as on-board toilets and, therefore, have not been suitable for long distance services.

Tram-train systems do have specific requirements. In Far North Queensland, these would include new stops along existing railway lines so the tram-trains can work as light rail and in some places, a third rail alongside the existing cane train line to, provide the wider gauge needed by the tram-trains.

Where is dual-mode rail working?

Some of the more successful dual-mode rail systems are found in Karlsruhe, Saarbruecken, Heilbronn, Kassel, Nordhausen, Zwickau, and Aachen, in Germany, and Alicante in Spain.



Karlsruhe

The populations of these cities vary from about 100,000 to less than 300,000, except for Nordhausen, which is home to less than 50,000 people. The population of regions around the cities total up to about 1 million people. Other cities, such as Chemnitz (population 270,000) in Germany and Geneva (150,000 people in the city, 300,000 in the region) in Switzerland, use similar vehicles.

Substantial economies, social stability, a sufficiently advanced public transport culture, political and legal support, effective urban planning, sound public transport planning and management, adequate financing, and compatible existing infrastructure and/or route access have been among the factors which have combined in the success of tram-train networks in these cities.

Many other cities in Europe and the US are considering some form of tram-train system. In Australia, tram-trains are being considered for two lines in Adelaide.

Why have dual-mode rail in Cairns?

Cairns is a city at the centre of a region with a population expected to grow to nearly 300,000 by 2025 and an expanding economy. Dual-mode rail will provide an environmentally compatible transport system which extends from the urban area into the surrounding region. It will introduce innovative technology into and create new jobs in the region and could make the region a base for the dissemination of expertise about passenger transport. Also, dual-mode rail will support pedestrian districts in the city centre and the use of bicycles and mobility assistance aids, which can be taken on board, as active transport throughout the region.

A key problem for setting up tram-trains has been linking up existing tramway and railway systems. Cairns has no tramway or electrified railway, so dual-mode rail can be built from the ground up as a state-of-the-art low-floor system.

Tram-trains can take advantage of the city's linear layout, which is traversed by continuous transit corridors.

The city also has under-used heavy rail and cane train lines from Gordonvale to Redlynch and from the southern suburbs to Smithfield. Dual-mode rail can bring these into use for public transport through a third rail (whereas the proposed southern corridor busway is delayed until cane train running ends), track duplication and new better aligned lines between Woree and the city, around Carovonica and from Smithfield to Palm Cove.

Tram-trains, with their own right-of-way and accelerated traffic signals, will provide fast, punctual, and "rider-friendly" travel for people across Cairns. Shorter trips, within suburbs and to the tram-train lines, can be made on buses, running like ribs off the rail spine of the city's transport, and bicycles. We will then have a comprehensive system of public and active transport. People will be able to quickly change the way they chose to move, driven by their consciousness of the environmental, financial and human costs of car use.

Beyond Cairns, tram-train services can extend to Babinda and Innisfail, to Kuranda and to Mareeba and the Tablelands. Regional rail lines could be electrified or some tram-trains could have dual electric and diesel or biofuel motors to provide services. Local bus services would then provide transport within these towns.

A sustainable transport future is an opportunity for Cairns and FNQ. What is needed now is the political will to pro-actively provide effective public transport.

This information sheet is produced by Cairns Action for Sustainable Transport (CAST). For further information, visit our web blog, <http://cairnsactionforsustainabletransport.blogspot.com>, email



Bike rack, Amsterdam