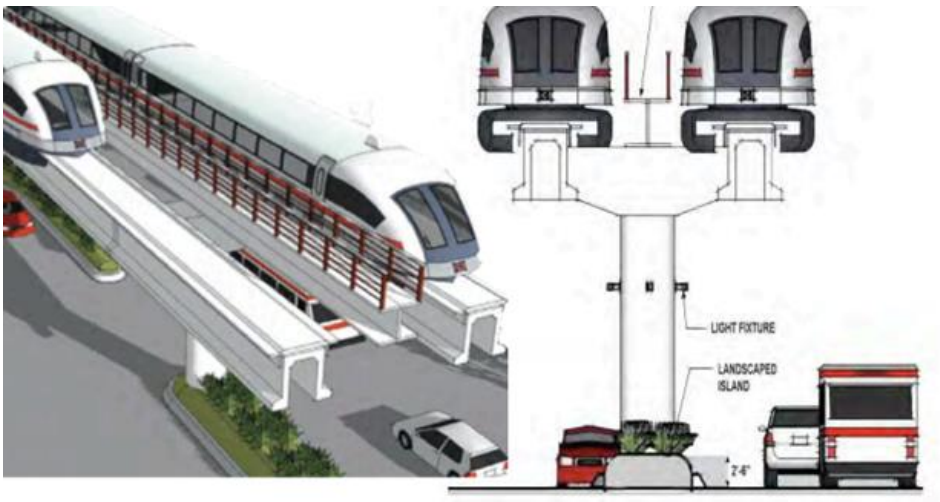
Passenger Rail Link
Beerwah - Maroochydore
Sunshine Coast Region
(CAMCOS corridor development)



Context

1. Sunshine Coast public transport – is there a clear need for service development, enhancement?

2. The desirability of an integrated public transport infrastructure plan – not either/or but the larger whole.

3. The role of the CAMCOS project – linking the contemporary centre of the Coast.

4. The role of the private sector – innovation, initiative, capital investment.

5. Is maglev rail a feasible (desirable?) option? Is it the only CAMCOS option?

6. Why are there no examples of maglev rail in countries with which we compare Australia?

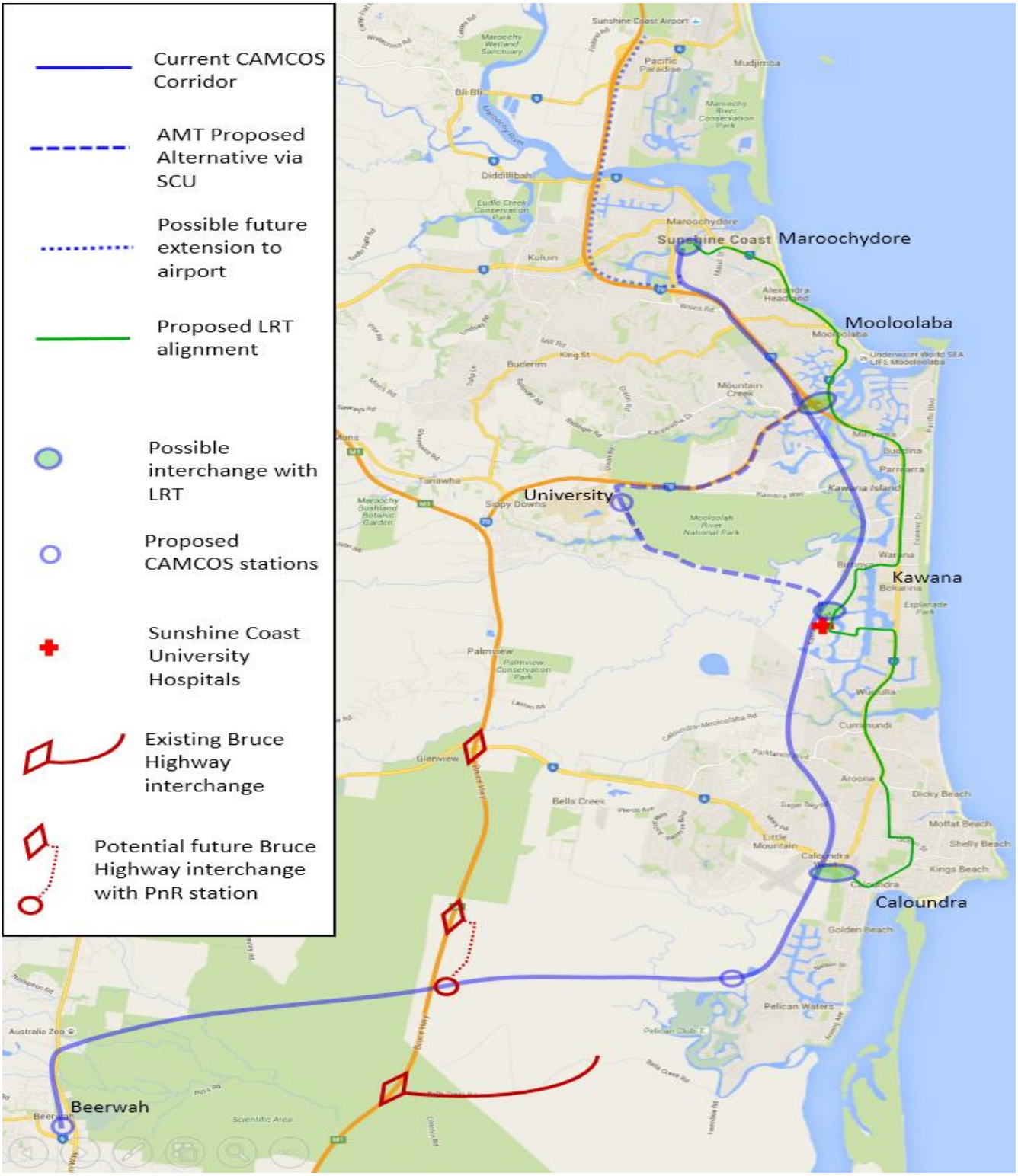
7. Maglev CAMCOS – operational parameters.

8. The State Government and its agencies.

The CAMCOS Project

- First mooted by the State Government in mid-1990s
- Objective – to provide a public rail transit spine for the Sunshine Coast to link the coastal urban area to the main northern rail line and Brisbane
- Initial study completed in 2001. Subsequent State Governments have committed to the project (included in the Connecting SEQ 2031 – An Integrated Regional Transport Plan for S-E Queensland)
- Over the interim period Transport & Main Roads has continued to ensure the reservation of the designated route as a major public transport corridor
- To date no action to commence actual development of the CAMCOS connection has been taken
- This is notwithstanding the major growth in population within the Coast region and the hinterland and the associated increase in traffic congestion on the Bruce Highway

The AMT Proposal - Map



What is Maglev Rail?

Maglev (derived from **mag**netic **lev**itation) technology employs the power of opposing magnetic fields to raise and propel vehicles rather than traditional wheels, axels and bearings. The vehicle is levitated above a guideway using magnets to create both lift and thrust.

Maglev rail is operating commercially in a number of countries. Probably the best known service is that which connects the Shanghai International Airport to the city's financial centre. This operates at 400+ kph and travels the 30-odd km route in around 7 mins.

Lower speed systems are also operating in Japan and South Korea.

Maglev rail vehicles travel more smoothly and are much quieter than traditional wheeled transit systems, making the technology suitable for application in major urban areas. Almost total absence of friction means that acceleration and deceleration surpasses that of wheeled transports. Additionally, eliminating friction-generated wear and tear substantially reduces maglev vehicle repair and maintenance costs.

What AMT's Maglev CAMCOS is Not

- It is not a toy or a tourist or theme park attraction. It is a serious piece of public transit infrastructure.
- It is not a tram, which typically travels relatively slowly with frequent stops located at short intervals along the route. Rather, it is intended to provide an efficient and frequent transit service over a regional route, with stations strategically located at major business, service and retail destinations.
- It is not a high-speed, longer distance system established to link two points, such as the Shanghai international airport service.
- It is not a replacement for existing services (e.g. bus), which will continue to be an essential element in an integrated public transport system for the Coast region, providing feeder connections to the maglev rail service.
- It is not the total answer to improving transport connections to Brisbane, however it would be part of the solution by delivering an effective and viable link between central Maroochydore and Beerwah.

The AMT Proposal – Major Elements

- Maroochydore station located in SunCentral Town Centre (old Horton Park site)…Beerwah station in the vicinity of existing rail station
- Interim stations at Mooloolaba, University, SCUH, Caloundra, Caloundra West (Little Mountain), Caloundra South (Aura)
- Initial operation with 12 vehicles with two coupled; each vehicle with up to 225 passenger capacity
- Service frequency of 10-12 mins. operating 20 hours per day, 365 days per year
- Total trip time with station stops of 28 mins at maximum speed of 100-150 kph
- Prelim M'dore-Beerwah full fare of $7.50 (indicative)
- Full integration with Translink public transport system
- Estimated capital cost, including dual track, vehicles, stations but not land access costs - $820m US

AMT Maglev Rail – Advantages

Competitive Capital Costs

Capital cost up to 50% less than the projected cost of alternative light rail systems and 75% less than heavy rail, as a result of –

- lower cost guideway infrastructure designed to carry lower speed intra-regional services;
- the "smart vehicle, dumb track" principle;
- construction techniques involving off-site pre-cast guideway piers and beams.

Lower Operational Costs

- Near frictionless operation resulting in relatively minor maintenance costs;
- No moving parts (no wheels, axels, bearings) resulting in reduced repairs and replacements;
- Automatic and driverless operation via a central systems-based control facilities.

AMT Maglev Rail – Advantages (contd.)

Energy Efficient

AMT's maglev rail operation is a low-energy alternative, consuming 60-70% less energy resources than alternative rail transport systems. Natural low friction advantage results in relatively high levels of kinetic energy generation and retention.
It also produces a major component of its own needs via regenerative energy during braking and solar power facilities on both stations and vehicles.

Lower Environmental Impact

Operates with virtually zero direct emissions.
Requires relatively smaller ground footprint

Almost Zero Noise

Reduced Disruption; Enhanced Safety

Operated on an elevated guideway, maglev results in significantly less disruption to existing vehicle and pedestrian traffic and other community activities both during construction and operation.

AMT Offer to State Government

[submission under Market-Led Proposals (MLP) Policy]

- ✓ Total capital cost to be met by private sector (AMT and international and local partners) with no call for capital contribution from any level of government.
- ✓ Indemnities against all ongoing risks; acceptance of responsibility for any cost overruns; possibility of future sharing of over-budget revenues.
- ✓ Translink public transport system full integration.
- ✓ Transfer of ownership to State after agreed period of initial licensed operation (minimum of 30 years).
- ✓ Guaranteed construction to full commercial operation within 24 months.

State Government response

- X Not convinced of the need for the CAMCOS project ahead of other current government priorities.
- X No compelling argument to warrant dealing with AMT exclusively, rather than undertaking a competitive market process (not in prospect).

Who is AMT?

Founded in 1994, based in Atlanta GA.

The company holds more than 50 patents and patents pending, specializing in advanced magnetics.

At its maglev rail test facility in Powder Springs GA AMT has over a number of years completed a rigorous test program with a full-scale, fully loaded maglev rail vehicle.

Has reviewed maglev rail opportunities in a number of US states and in Indonesia, India and Russia.

Additionally, AMT has developed maglev-based concepts for the movement of shipping containers within major ports, e.g. Long Beach CA. Currently engaged in the development of similar systems in Turkey and Croatia.

AMT also has collaborated with US government agencies in the development of maglev-based aircraft braking systems (aircraft carriers) and similar applications for civil aircraft and freight trains. Has also undertaken development of magnetic gearbox applications and energy storage innovations.

For further information please contact -

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