INCREASING CONVENIENCE AND COMFORT OF THE CAPITAL METRO LIGHT RAIL TO MAXIMISE COMMUTER LEVELS

Usage of the proposed Capital Metro light rail would reduce both Canberra's environmental impact and levels traffic congestion in the city center. The proposed route services the Gungahlin and Dickson areas, where current public transport uptake is at 6.9%. For the light rail project to be feasible, uptake must exceed this relatively low bus uptake. The focus of this analysis was directed on improving convenience to maximize commuter uptake, as research has shown this to be a vital determining factor. These recommendations aim to make the Light Rail a more attractive alternative for car commuters, since they currently make up 85% of commuters from Gungahlin.

Integration of Existing Public Transport

Integrated Timetabling

Quantitative analysis showed buses were seen as inefficient and inconvenient, with long transfer times at interchanges. By integrating the bus and light rail networks, waiting times will be reduced when transferring between them.

Most suburban Gungahlin buses arrive at the Gungahlin interchange on the hour or half-past the hour, resulting in influxes of commuters. **Buses should be evenly staggered to reduce overcrowding and waiting time for commuters.** The reduction in commute time will increase system convenience.

Bus Route Modifications

Currently, Capital metro only services a limited part of Canberra, primarily along Northbourne Ave., The Federal Hwy., and Flemington Rd. This limits the number of people who can use it.

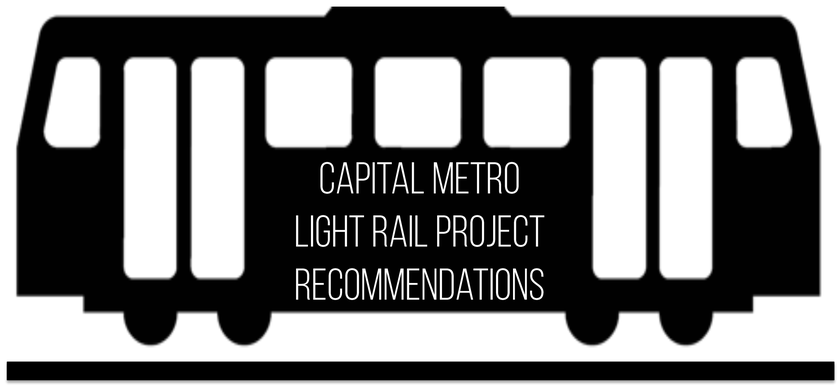
Bus routes should be adjusted to service light rail stations. This will make the rail network accessible to many more people, who would otherwise be too far from a rail station to use it.

E.g. **Increasing the number of buses travelling between Gungahlin suburbs and the Gungahlin town centre** will provide rail access to distant suburbs like Nichols or Bonner.

Integrated Ticketing

Integrating the Light Rail into the MyWay ticketing system will minimise fuss for consumers, who only need one ticket for both public transport methods. While this will cost ~$1-2 million, it is cheaper than creating and implementing a completely new ticketing system**.**

Offering financial incentives, such as discounted transfer tickets between bus and rail networks will encourage users to take an entire trip on the public transport and help reduce congestion in the Gungahlin region.



Light Rail Timetable Changes

Increasing Train Frequency

Capital Metro suggests that the light rail will initially run every 7 minutes. In peak times, running trains every 7 minutes results in a wait time of 17 minutes. Queue Theory shows that **increasing train frequency to every 5 minutes** reduces max wait time to 5 minutes. By 2031, this should be increased to every 4 minutes to provide low wait times and high levels of convenience.

During non-peak times, a train every 7 minutes will easily be able to meet the needs of the 2021 Gungahlin population**. In non-peak times, the light rail must run no less frequently than every 15 minutes** to maintain the convenience of the current Red Rapid ACTION bus route.

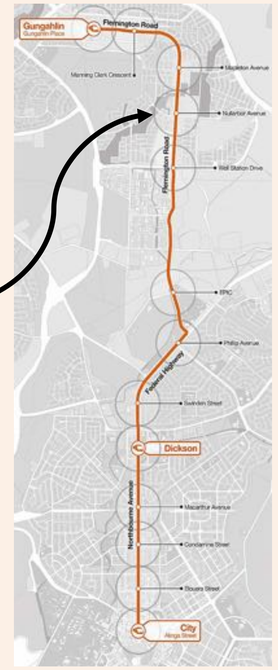
Dynamic Timetable Adjustments

The Light Rail system is driven positively by availability and convenience and negatively by wait times and cost factors. To ensure the train is fully utilised by consumers, the timetable should be demand driven. In high-peak times, train frequency can be increased to meet demand. In low-peak times, where the train is under-utilized, train frequency can be decreased. This allows the **system to constantly evolve to meet commuter needs.**

Comfort and Safety for Passengers

Secure Car/Bike Parking

Only a small fraction of the Gungahlin region's 90.6 square kilometers are within walking distance of a train station, excluding a significant portion of the population.



Map of the proposed light rail route.
The grey circles represent areas within walking distance to Light Rail stops.

Providing sufficient bike and car storage will effectively increase the land area that is in commuting distance of a railway station. This will increase the number of passengers for whom the Light Rail is a convenient option

Ensuring Train/Station Comfort

Several studies demonstrate that people choose rail based on emotional, physiological and comfort factors. Convincing people to use light rail is therefore dependent on how comfortable and safe the system feels. Additionally, it will be beneficial for it to have a high quality aesthetic.

Recommendations for improving system attractiveness and comfort are:

- Using high quality materials for train and platform construction
- Ensuring that maintenance is performed regularly
- Providing screens to display information about arriving trains
- Ensuring train access accounts for mobility impairments
- Providing well-lit, comfortable shelters to increase the safety and comfort of waiting commuters
- CCTV installation to improve safety and security.

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