

**Submission  
No 58**

**INQUIRY INTO IMPACT OF THE WESTERN HARBOUR  
TUNNEL AND BEACHES LINK**

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## Introduction to the Chatswood-Manly Metro Line

I am strongly opposed to the Beaches Link project.

It is expensive to build, environmentally damaging, destructive of local communities, does not promote economic development in the region, worsens parking outcomes, increases total traffic volumes and raises the cost of transport while barely improving travel times to the CBD.

I am presenting a better transport solution, the Chatswood-Manly Metro Line. This line is the obvious solution to transport problems on the Northern Beaches but has never been considered by NSW government agencies.

In the EIS, "Chapter 4 Project development and alternatives Table 4-1" states:

"Secretary's requirement: 1. The EIS must include, but not necessarily be limited to, the following:  
e. an analysis of any feasible alternatives to the project.

Where addressed in EIS: An analysis of strategic alternatives is provided in Section 4.3"

In Section 4.3.5, rail is discussed under the heading of "Improvements to alternative transport modes, Improvements to the rail network." It states:

"The topography on either side of Middle Harbour introduces challenges for constructing a tunnel with a gradient that would be acceptable in terms of engineering design and safety for rail infrastructure...

The provision of rail infrastructure is also reliant on the location of and accessibility to high density residential or commercial property close to the proposed location of stations as well as along its route. Given the high cost of constructing and operating rail infrastructure and the low density nature of the Northern Beaches, it is considered that demand would not be high enough to make investing in a specific or dedicated rail link to the Sydney CBD a viable alternative."

This shows the government has considered "a specific or dedicated rail link to the Sydney CBD" but never a Chatswood-Manly Metro Line that runs under the Castle Cove peninsula.

This rail route meets the requirements outlined in 4.3.5 of the EIS.

- It has a very slight gradient, achieved by travelling entirely underground and locating stations only in low lying areas. The rail line never climbs steeply.
- Stations are located in commercial and industrial areas.
- It is the lowest cost route possible, achieved by taking the shortest and most direct route to the areas of highest population density on both sides of Middle Harbour.
- It does not go to the Sydney CBD but links to the NSW rail network at the closest point near Chatswood.

The Chatswood-Manly Metro Line outperforms the Beaches Link in every metric. It is a faster transport solution, it reduces traffic throughout the Northern Beaches as well as in the CBD, it is less environmentally damaging, less destructive to communities and delivers better economic stimulus to businesses in the Northern Beaches, all at a lower capital cost of construction and operation (from an economy wide perspective).

I strongly urge the NSW government to seriously consider the Chatswood-Manly Metro Line in preference to committing to the inferior Beaches Link project.

Please see the attached file, Chatswood-Manly Metro Line 210606.pdf, which outlines the Chatswood-Manly Metro Line project.

# Chatswood-Manly Metro Line

## Project summary:

### A 10km line from Chatswood to Manly via Castle Cove peninsula

- Connects Northern Beaches to NSW rail network by the shortest, cheapest route.
- Takes rail directly to the most densely populated areas.
- Links with existing road, bus and train routes.

### Out performs Beaches Link on every metric

- The fastest transport solution: reduces travel time by up to 90%.
- Takes cars off the road: reduces traffic congestion, improves parking.
- \$5 billion cheaper than the Beaches Link (estimate for Stage 1 only).

### Entirely underground

- Minimal adverse social, economic and environmental impact.

### Stations in high density, high use, industrial or commercial areas

- Provides long-term economic stimulus to commerce and industry.
- Minimal adverse impacts on residential areas.

### Three-stage project

- Stage 1: Chatswood-Manly Metro Line connects the Northern Beaches to the rail network.
- Stage 2: Beaches Spur Metro Line extends the line to Mona Vale.
- Stage 3: Eastern Suburbs Metro Line extends the line under Sydney Harbour to the Airport.
- Easy to finance, delivers benefits quickly, limits disruption to communities.
- Spreads benefits and costs evenly over the Northern Beaches and Eastern Suburbs.
- Makes the whole city accessible.
- Provides the missing link in Sydney's rail network: connects north, south, east, west.



## Transport Solutions for NSW

# Chatswood-Manly Metro Line

### Northern Beaches has a transport problem

The Northern Beaches has no rail. It is connected to the rest of Sydney by only three roads, and by ferries from Manly to Circular Quay and ferries in the north to isolated communities in Broken Bay.

The region has one of the highest car, lowest public transport usage rates in Sydney.

It suffers from traffic congestion to the CBD on weekdays and parking congestion caused by visitors and locals traveling to sport and recreation on the weekend.

Transport problems are a major cause of frustration for Northern Beaches residents.

A Beaches Link tunnel connecting the area with the CBD has been proposed.

This project is forecast to slightly reduce travel times but at great economic and environmental cost. It will lead to higher dependence on cars which will cause other parking and congestion problems.

### The Chatswood-Manly Metro Line fixes the transport problem in 5 minutes

The Chatswood-Manly Metro Line is a much better solution to the transport problems of the Northern Beaches.

It is a simple, inexpensive and easy to build rail line that connects the Northern Beaches to the NSW rail network by the shortest underground route.

The line runs from Chatswood Station to North Manly via the Castle Cove peninsula and a tunnel under Middle Harbour.

The line is 10km long.

A slow train travelling non-stop at 60km/h will take 10 minutes to travel the whole length of the line. A fast train travelling non-stop at 120km/h will take 5 minutes to travel the route.

Current car travel time for the same route is 30 minutes. That is a time saving of over 80%.

Current bus travel time for the same route is 70 minutes. That is a time saving of over 90%.

### The Chatswood-Manly Metro Line connects the Northern Beaches

The Chatswood-Manly Metro Line takes people from the Northern Beaches to Chatswood. From there they can travel by train north to the Northern Suburbs, Central Coast and beyond.

They can travel south to the CBD by train or metro. From the CBD, they can access the Western Suburbs, Southern Suburbs, Eastern Suburbs and airport. They can travel to the South Coast, Blue Mountains and beyond.

From Chatswood they can travel west by metro to Macquarie Uni and the Hills District.

With the Chatswood-Manly Metro Line, people from the Northern Beaches are connected into the whole Sydney wide, NSW wide and Australia wide rail network in just 5 minutes.

### Convenient stations

Three stations for the Northern Beaches are North Manly, Balgowlah and Seaforth. Stations are entirely underground, connected to road level by entrance pathways.

Stations are in high population density commercial and industrial areas near major arterial roads. North Manly Station is near Pittwater Road, Balgowlah Station is near Condamine Rd and Seaforth Station is near Wakehurst Parkway.

Stations are easy to access by locals and by road. Commuters are already on these roads so the metro will not increase road traffic near stations.

No road changes are needed.

## Transport Solutions for NSW

# Chatswood-Manly Metro Line

Balgowlah Station will naturally develop into the major hub on this part of the line because it is already a transport centre with a busy arterial road and a B-Line station nearby.

Balgowlah Station is in a commercial zone so will not affect the surrounding residential area. Local businesses will thrive as commuters pass through but the commercial area will not become too large and impact on residents because Balgowlah will be superseded as the main train station by Brookvale Station when Stage 2 of the project is developed.

Three stations on the Chatswood side of Middle Harbour are Castle Cove, Roseville Chase and Chatswood.

Castle Cove Station is in the Chatswood Industrial Area.

Roseville Chase Station is the most accessible station for Forestville and nearby residents.

Chatswood Station is located within the existing Chatswood Station area.

### Deep line, shallow stations

The line is relatively flat: 20m at Balgowlah, -20m under Middle Harbour and 80m at Chatswood. It travels under sandstone hills for most of the way that can be over 100m high.

It is said that construction deeper than  $\approx 30\text{m}$  is undetectable by even military grade sensors.

Construction and operation noise and vibrations will not be felt by residents living above the line due to the thick sandstone layer above.

Steep hills and escarpments allow stations and rail line to be positioned under a thick layer of sandstone, making the stations silent to people overhead yet easily accessed by semi-horizontal entrance paths that connect to entrances and exits in street level commercial areas.

Minimal digging for stations makes the project cheaper than other train stations in Sydney.

The line surfaces near Chatswood where it links with the NSW rail network.

### Middle Harbour crossing

The Middle Harbour crossing will use similar technology to the Beaches Link project. However, since the crossing for the metro line is narrower (2 rail lines wide vs 6 car lanes) shorter (330m vs 400m) and lighter (2 trains max crossing at any time vs a large number of 40t trucks), it can be better designed to use more modern technology.

The metro line crossing needs much smaller supports and is located in a position with less sediment so will have less environmental impact on Middle Harbour.

### At least \$5 billion cheaper than the Beaches Link

The Chatswood-Manly Metro Line is estimated to cost at least \$5 billion less than the Beaches Link.

Major cost efficiencies come from these areas:

- The tunnels for the Chatswood-Manly Metro Line are much narrower than for the Beaches Link meaning less than half as much digging and rock disposal.
- The Metro Line crossing of Middle Harbour is narrower, shorter and lighter than the Beaches Link. It uses less material, will be faster to build and is in an easier location to build.
- The Beaches Link project requires massive changes to roads in the lower Northern Beaches and on Warringah Freeway. There is no proposed road construction for the Metro
- Stations are not at depth so will be cheap to excavate.
- Driverless trains running on solar electricity with Opal ticketing will have very low operation costs.

## Transport Solutions for NSW

# Chatswood-Manly Metro Line

### A better transport solution

- Faster to Chatswood.
- Faster to the CBD.
- Reduces car use whereas the Beaches Link increases car use.
- Less traffic congestion throughout the Northern Beaches: commuters will switch from car to bus+train combination.
- People visiting the Beaches on the weekend will switch from car to bus+train.
- Resolves parking problems in the Northern Beaches. Reduces parking demand in the CBD.
- Easier for young people to travel around.
- Easier for the elderly and disabled to get around Sydney.
- Takes you all over Sydney fast.

### Better for communities and the environment

The Chatswood-Manly Metro Line is better for communities and the environment than the Beaches Link for the following reasons:

- Entirely below ground at depth. Does not affect bushland or waterways. The Beaches Link destroys large areas of bushland and affects a number of creeks with runoff, dewatering and construction.
- Does not destroy bushland.
- Does not reclaim golf courses.
- Does not drain, re-route or cement up creeks.
- No road widening. Suburbs are kept intact, quiet and safe.
- Preserves the laid back lifestyle of the Northern Beaches.
- Due to being a much smaller project, there will be less impact in construction.
- No exhaust pollution from the trains. More people will leave the car at home and catch a bus to the train.

### Better for the economy

The railway will drive strong long-term economic growth in the Northern Beaches.

- Stations in commercial/industrial zones will make businesses there more profitable, leading to more companies moving in.
- Jobs will grow and the quality of life will improve with more things to do and buy.
- The Beaches Link is the opposite: it imposes a cost on people from other areas coming to the Northern Beaches to shop and will make the region a zone of only residential+resident needs rather than a vibrant, comprehensive economy.
- The Metro is much cheaper to build and run = less debt and more money to spend on developing the economy and providing essential services.

### An integrated transport solution

The Chatswood-Manly Metro Line is designed so that the Metro line can be continued north up the Northern Beaches and south to the Eastern Suburbs and Airport to provide a complete rail solution east of the Harbour Bridge.

The project is divided into three stages to make financing and construction easier and to minimise disruptions to communities.

# Transport Solutions for NSW

## Chatswood-Manly Metro Line

### Stage 2: Beaches Spur Metro Line

The Beaches Spur runs from Balgowlah to Mona Vale. It takes rail transport to the majority of the Northern Beaches.

It spreads train use by locals and visitors evenly over the Northern Beaches.

All stations are in commercial and industrial areas.

The Beaches Spur fixes transport issues in the region at a reasonable cost.

It has a low impact on the environment, communities and people's lives.

It helps drive economic development throughout the region.

Connection to Metro Northwest at Roseville Chase enables multiple route configurations.

Fast to work, fast to university, fast to get around the city on weekends. The Metro line delivers a comfortable beaches lifestyle with less traffic and better access to the rest of the city.

### Stage 3: Eastern Suburbs Metro Line

Stage 3 connects the Northern Beaches directly to the Eastern Suburbs.

Enables multiple route configurations: Mona Vale/Hills District, Mona Vale/Central, Mona Vale/Airport, Hills District/Airport and Chatswood/Airport.

Travel around the Eastern Suburbs becomes easy. The Northern Beaches connects to UNSW, Kings Cross and the airport. Beach visitors from the rest of Sydney have easy access to the Northern Beaches and Eastern Suburbs and are spread evenly along the coast.

Work, study, entertainment and holiday travel become much more accessible.

It completes the rail needs for Sydney east of the Harbour Bridge.

