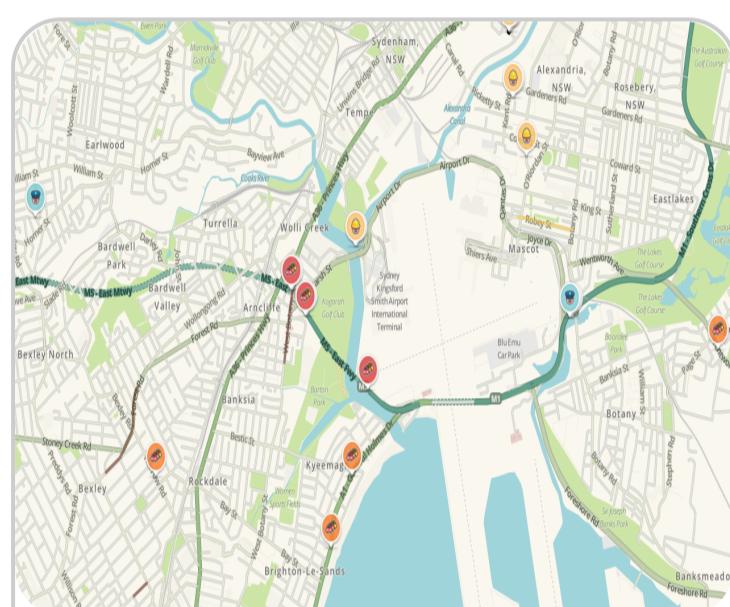


# Sydney

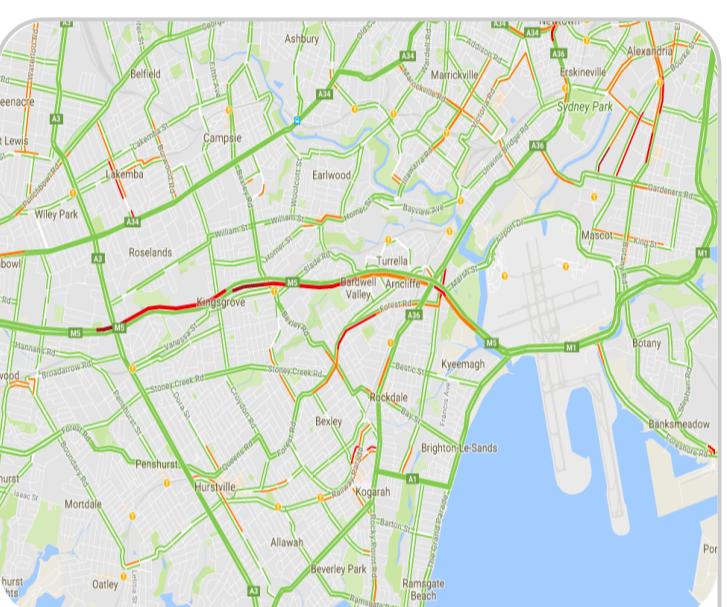
&amp; Its Logistic Routes

## The Focus Area

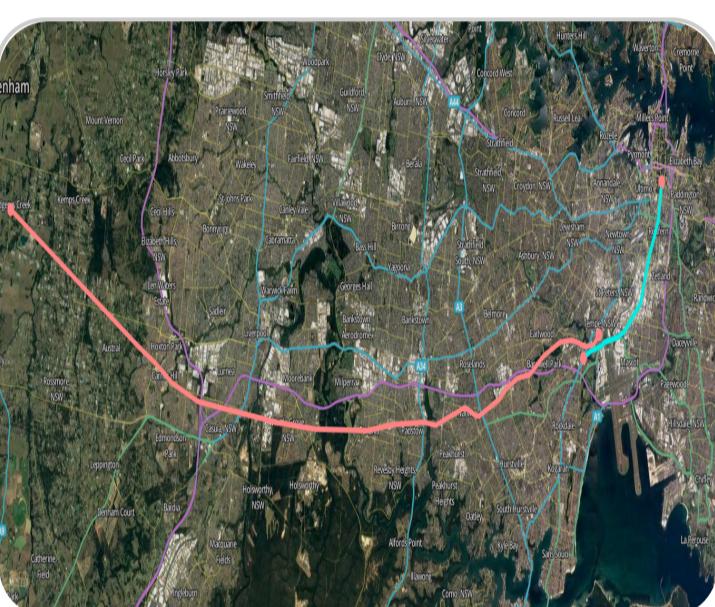
Sydney, the central hub for New South Wales that is flooded daily by its surrounding population due to availability of facilities and opportunities for major business development. With the increasing amount of people present in Sydney every day, resources required to continue running the used facilities are always increasing. These include not only daily life necessities but also resources consumed by the growing number of businesses that have made residency in the heart of New South Wales. Due to this fact, logistic transportation from intermodal nodes utilise the most efficient routes in order to deliver and move these resources to, from and around the surrounding area. One of the most predominant routes are the Botany Bay to Enfield Intermodal Logistics Centre where imports and exports from air and water transit modes are transported along the Airport and M5 highways. The route holds significant importance as it allows for essential resources to reach their destination on timed schedules however it is often plagued with congested traffic conditions causing delayed shipments and potentially avoidable environmental damage. With a new major intermodal node being situated at Badgerys Creek in preparation for the future inner-west Airport, the increased amount of transportation required for the consignments will only cause further congestion. This is due to the new Airport being initially focussed on import and export before slowly becoming a mixed consumer focussed facility which means that the increased availability of shipments results in more inflow and outflow which results in a net positive profit. This is however, bottlenecked by the fact that potential profits may also be lost to delays in shipment due to the converging routes towards the Airport and Botany Bay areas, as well as harm that may be caused to the environment with the increased transport emissions.



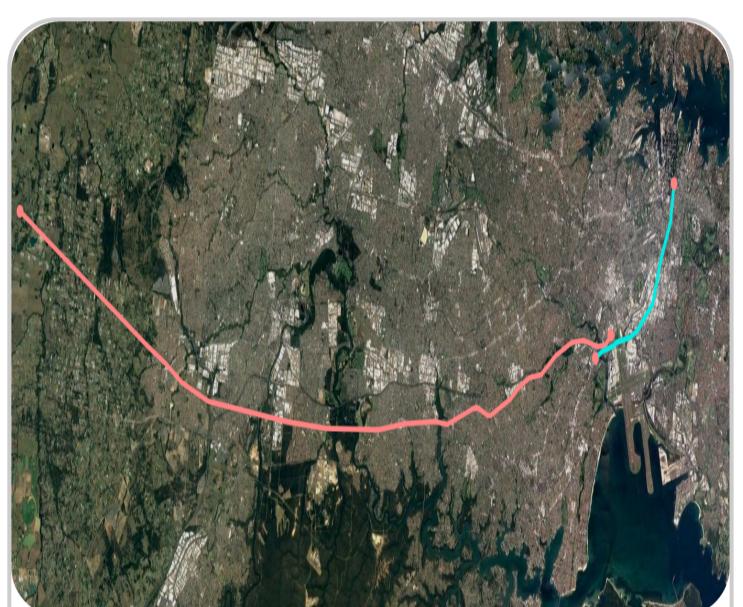
Road Alerts At M5/Airport On Average Days (Police, Construction, Congestion Areas)



Typical Traffic Conditions At M5/Airport: Congestion (Red), Populated (Green), Relatively Empty (White)



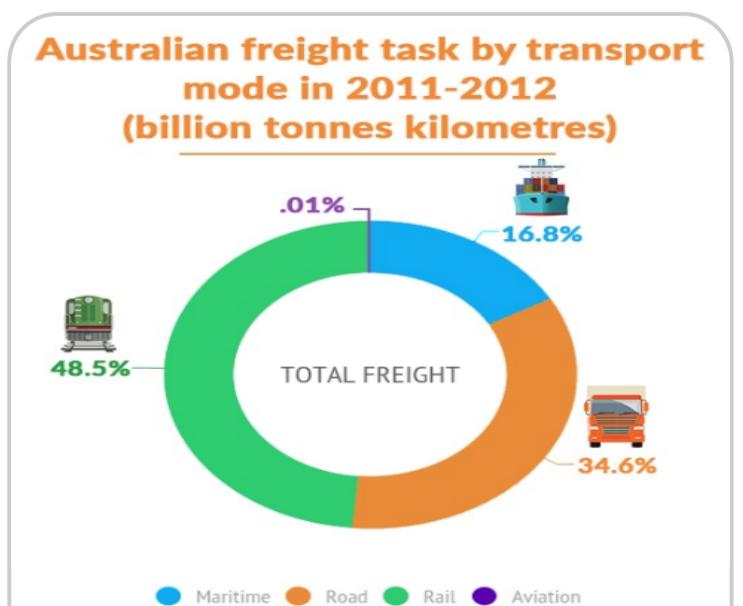
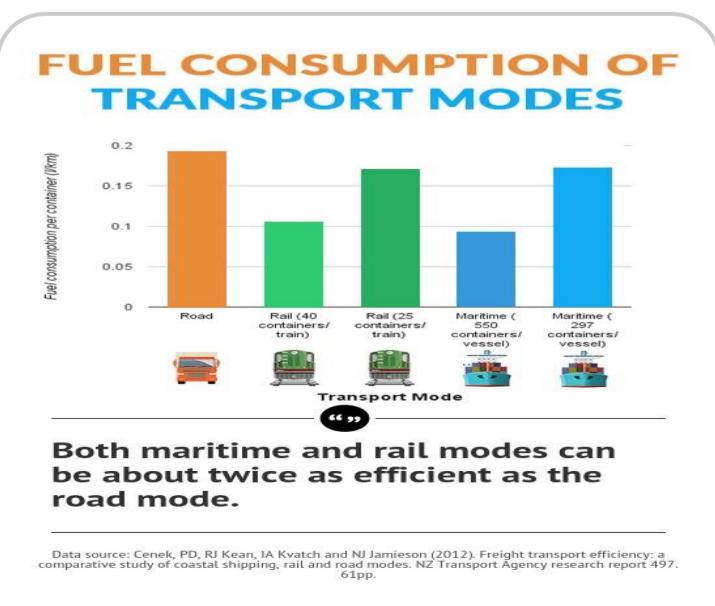
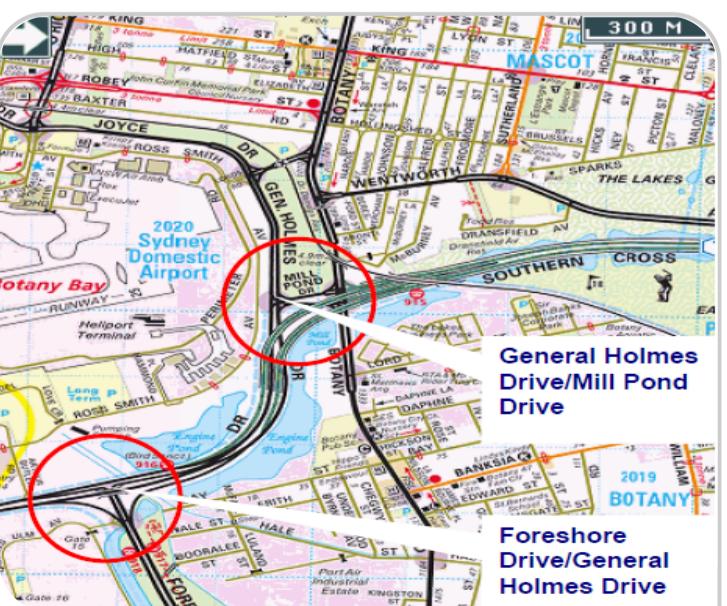
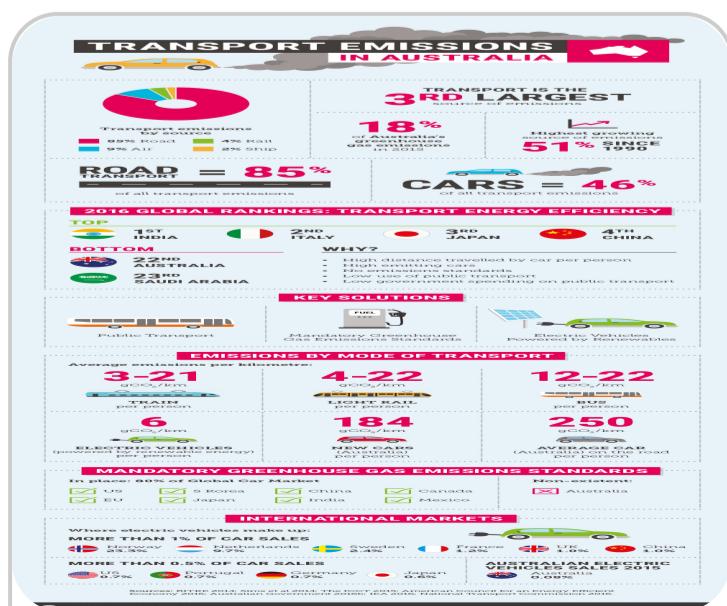
Satellite Major Road Usage  
Identification: Yellow (Low), Green (Low-Medium), Blue (Medium), Purple (High), Bolded Red/Blue (Proposal)



Direct railway route: Badgery Creek to Enfield Logistics and Airport/Botany Bay to Inner City/Northern Sydney (Bolded Blue)

## Solution Proposal

The proposal to remediate these arising problems is the construction of an independent freight exclusive railway which will follow already existing train lines. This allows for little to no interferences with already established infrastructure as it will be a railway which runs over the top of already existing rail roads. The reason for the elevated track is so that the shipments through this method have their own exclusive route which will not interfere with consumer railways hence removing the chances of delays to both businesses and consumers who travel via trains. Furthermore, the new overhead railway will be utilising solar panels on the trains and the track itself in order to operate while also providing shade for the already existed consumer train tracks. By providing shade, the consumer trains can also decrease the amount of air conditioning required to provide a comfortable experience hence further lowering carbon emissions as there is less reliability on fossil fuel generated electricity. Additionally, as the track is approximately 60km long, the solar panels may generate more electricity than required which can be stored for future use or re-routed into the energy grid for the local population to utilise hence further lower carbon emissions and ultimately helping out environment. To further remedy the problem of transportation into the inner City and northern regions of Sydney, a dedicated highway for freight will be constructed. The reasoning for this is that the centre of Sydney is too clustered to introduce another intermodal node however introducing exclusive highways can help to separate businesses and consumers. This allows for traffic congestion prevention while also maintaining the roads longer as heavy transport trucks are known to damage roads more regularly than consumer based cars. Overall this solution allows time to be saved, traffic congestion to be avoided, emissions to be minimised as well as further preservation of roads to lower maintenance costs which cause delays.



## Precedents

The following images are precedents which have contributed to the design proposal.



Overhead Highways. Source: [Shutterstock](#)



Solar Canopies. Source: [Understand Solar](#)



Solar Station Roofs. Source: [Solar Power Plant Business](#)



Solar Panels On Trains. Source: [Inhabitat](#)

## 3D Renders

The images below are 3D rendered images of the rail and road within their areas.



Railway Overpass



Railway Towards Airport/Botany Bay



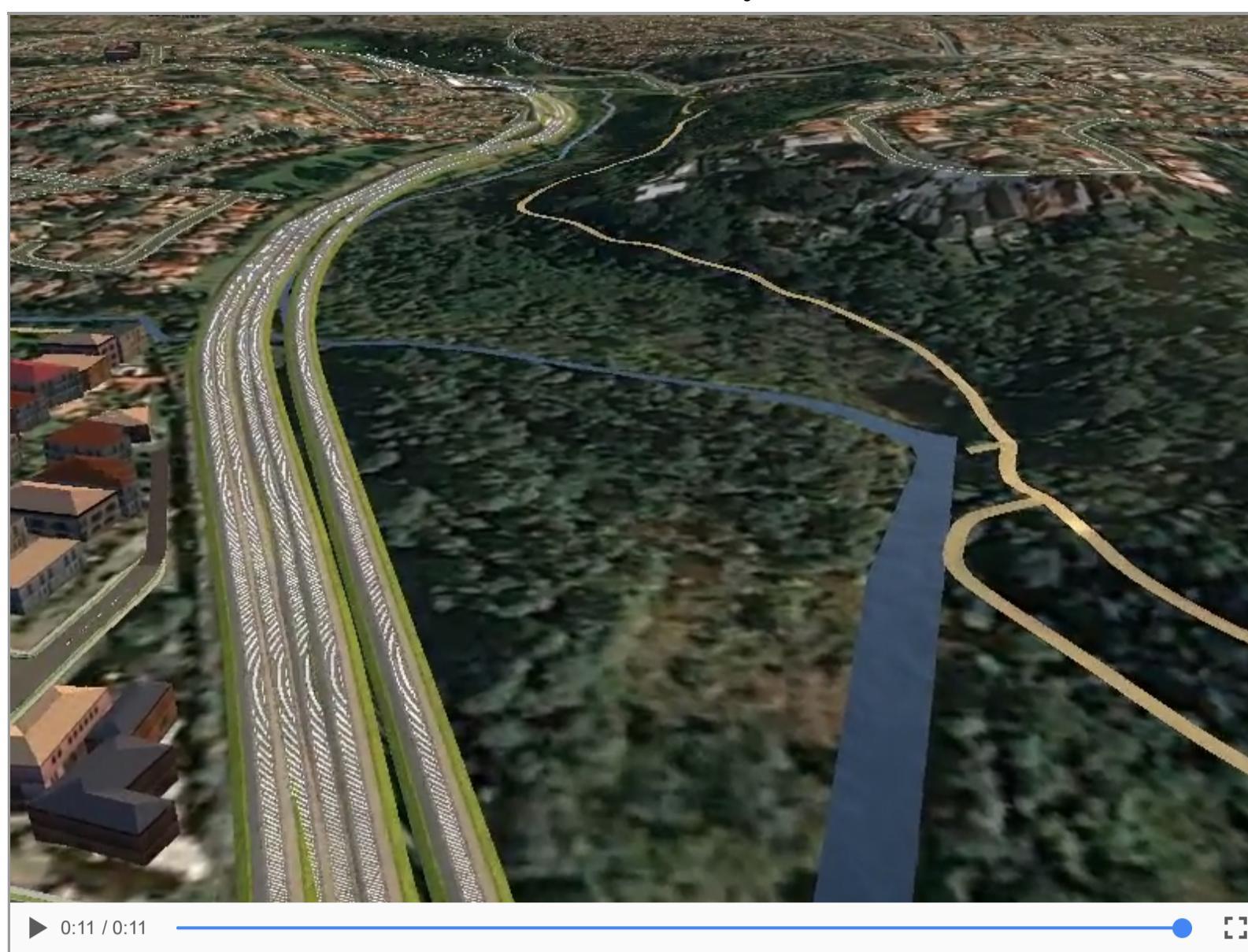
Highway Overpass Heading Towards  
Inner City Region



Dedicated Highway Divided Off Main  
Highway

## 3D Visualisation

This video showcases the proposed railway that will run between the intermodal nodes across Western Sydney.



This video showcases the roads viewpoint from its trip from the Airport/Botany Bay towards the inner City region where it overpasses existing highways.

