

Parramatta Light Rail EIS **PART 1A Submission No. 1**
Victor P Taffa 23 August 2017

Route 1 Parramatta Park Line

Serving Rosehill Racecourse, Westmead, Parramatta Park, Parramatta Stadium

Route 2 North Ryde Line

Serving Macquarie University, Macquarie University Railway Station (Heavy Rail only), Macquarie Shopping Centre



Bridge Road Glebe Tram Overpass, 13 April 2017 some 60 years on



Pacific Highway, North Sydney Tram Overpass, 1957 with North Ryde to have a similar Tram Overpass across part of Epping Road

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Special Interest And Personal Background Reasons

- George Street Sydney Light Rail Community Forum
- Previously worked as a Taxi Driver from Oct 2002-May 2007
- Taxi Authority No. GO 7584
- Member Australian Railways Historical Society
- Member Sydney Tramway Museum
- www.isput.com.au website contains Maps, Funding and Details of plans
- Previously owned and lived in Home Unit at 8/18 Bank Street, Meadowbank

All images contained in this submission were taken by Victor P Taffa except colourised image of year 1957 North Sydney Tram Overpass on cover page. Photographer is unknown.

Achievements In Infrastructure

Adelaide Street Curb, Drainage, Gutter

On Adelaide Street between Hay and Bennett Streets advised Ryde City Council staff regarding removal of roadside bollards and installation of new curb, gutter and drainage.

Bank Street Meadowbank Mail Boxes And Garbage Bin Bay

At 18-19 Bank Street Meadowbank I owned and lived in Unit 8. Minister for Veterans Affairs David Elliott also resided in the same block for some time.

Mail Box Unit and Garbage Bin Bay as organised and overseen by me containing:

- 21 Units Mail Box In Freestanding Red Brick Wall
- 1 Body Corporate Box
- 1 Space for Advertising Material
- 16 Bins in Red Brick Garbage Bin Bay

Garbage Bins had to be measured and enough room left to spare to get bins in and out of the Bin Bay.

I personally measured up the Bin Bay and gave required measurements to the Strata Company.

This Project would never have happened or ended so successfully had it not been for my persistence, determination and attention to detail.

Asking for this to happen did not occur at first request. However owners and residents were persuaded by me that monies had to be outlaid to build new Mail Box unit and Garbage Bin Bay.

Part of the problem with this project was that builders considered that this job was too small to worry about.

All 45 Photos taken by me illustrating start to finish of project is included in Parts 2 & 3 of Parramatta Light Rail EIS Submission.

Darvall Road/ Tramway Street West Ryde Roundabout

At Darvall Road/ Tramway Street roundabout as instigated by me advise Ryde City Council Councillors and staff and that had long been a speedway for hoons and traversed by Buses.

Darvall Road Steps Footpath With Handrails

On Darvall Road between Warrawong Street and Clanwilliam Street Steps Footpath and Handrails as instigated by me advise Ryde City Council staff due to the steep grade of the road and nature strip.



Meadowbank Road Overpass which needs to be widened that replaces Footbridge at Left of Bridge and includes lifts to Railway Platforms on right hand side

Meadowbank Railway Station Slip Lane

Handwritten design for slip lane, wider overpass and new western side approach at Meadowbank Railway Station was given to then Mayor Jim Hull by me. Slip lane was installed. Western side approach would be built with a new \$10 Million road overpass at Meadowbank Railway Station aligned with Underdale Lane.

New overpass requires 2 footpaths and 4 traffic lanes. Currently this overpass as with nearby Rutledge Street, Eastwood is a bottle neck in morning and afternoon peak hours.

Western approach can be redesigned that includes noise amelioration, retains trees and takes up less room.

New \$10 Million Overpass with Traffic Lights at both ends for safer pedestrian access and a squared off western approach that replaces dangerous bend is long overdue. Light Rail on Rutledge Street will also have safer benefits for Pedestrians, Motorists and Residents.

Traffic Lights and no new wider overpass will not enable safer pedestrian crossings for people or improved access to Meadowbank Railway Station.

Lifts At Both Ends Of Railway Stations

Lifts at both ends of a railway station serves customers and increases patronage.

With a widened road overpass at Meadowbank Railway Station lifts are needed from the newly widened overpass to railway platforms.

Meadowbank Railway Station on the western side approach also needs a footpath to the new overpass.

At a rebuilt North Strathfield Railway Station the same is needed.

Why?

When an intending passenger is running late and knows there are lifts close at hand they are more likely to catch a train that then boosts rail patronage.

This result in long term increase in rail patronage with the additional lifts and lift maintenance paying for themselves.

Sydney only needs Heavy Rail technology including the new North West Line.



Meadowbank Slip Lane in left corner of Photo and Bank Street verge on right able to be cutback when redesigning new western approach that includes a footpath

No new wider overpass and additional Traffic Lights will not improve the dangerous bend on the existing overpass or safer pedestrian access at the existing road overpass or enable installation of a new western side footpath.

Concerns that a new Overpass will increase traffic are unfounded. Wider road overpass will be aligned with Underdale Lane and given the number of blocks of units that are being constructed will improve traffic flow and safety for all Pedestrians, Motorists and Residents.

Verbal Commendations

Previously my ISPUT Website has received verbal commendations from:

Mr. Ron Christie AM, Former Director-General, Transport, State of New South Wales
Mr. Basil Hancock, RailCorp Railway Stations Planner

Remuneration

On par with delivery of other Light or Heavy Rail Projects of this size and scope.

My background in Hardware and thorough knowledge of Railways, Light Rail and Tramways will more than hold me in good stead as well as my experience in delivering Public Infrastructure Projects. This is outlined in Parts 2 & 3 of my Submission.

Attachments

- Heavy Rail Carlingford Line Extension Map from ISPUT website
- Heavy Rail Ermington Line Map from ISPUT website
- Heavy Rail Northern Line Extension Map from ISPUT website



Meadowbank Railway Station western side entrance with Slip Lane as designed by me and given to then Mayor Jim Hull. Further ahead the road to the overpass has no footpath making life very difficult for local Residents and Pedestrians.

ISPUT (Improve Sydney Public Transport) Website

- Supports Heavy Rail which connects with all other lines.
- Contains 3 Light Rail routes.
- Contains a National Network Page that supports Capital City-Capital City High Speed Rail aka Japan's Bullet Train at 450 km/h plus a roll-on roll-off Rail Ferry across Bass Strait.



Darvall Road between Warrawong Street and Clanwilliam Street Steps Footpath and Handrails as instigated by me advise Ryde City Council staff due to the steep grade of the road and nature strip.

Parramatta Light Rail To North Ryde Makes Sense

Parramatta-North Ryde Light Rail is what Sydney needs rather than via the Carlingford Railway Line unless corridor is expanded to 4 Tracks.

Parramatta-North Ryde Light Rail Features

Connects Parramatta and people with

- Macquarie University,
- Macquarie University Railway Station (Heavy Rail),
- Macquarie Shopping Centre,
- New Eastwood Police Station,
- New Kent Road Primary School Building,
- Double Track Tram Overpass,
- Rutledge Street Residents If Affected Offered Parcels Of Land On Pickford Avenue-Epping Road County Road Reservation.

Parramatta-North Ryde Light Rail will have

- Next time arrivals for Tram services at all Stops
- No curbside boarding for passengers,
- Combination Tramway with on and off street running of Trams.

Light Rail along the Carlingford Railway corridor does not connect people with such benefit. Light Rail along the unused county road reservation contains construction costs.

Light Rail along Rutledge Street will greatly improve road conditions for motorists and pedestrians particularly in Peak Hours.

Parramatta Light Rail should proceed along Victoria Road, Kissing Point Road and Stewart Street. Then along one side of Marsden Road and Lawson Street at Brush Park and continuing on one side of Brush Road to Rutledge Street and then onto unused County Road corridor to Macquarie Shopping Centre, North Ryde.

Sydney Metropolitan Rail Network

Sydney Metropolitan Rail Network should remain as Heavy Rail Technology including the Sydney Harbour Rail Tunnel and North West Line. London-France Rail Tunnel is Heavy Rail.

Sydney Harbour Heavy Rail Tunnel at a cost of \$2 Billion enables the Tunnel to convey Capital City-Capital City High Speed Rail (HSR) aka Japan's Bullet Train services to Brisbane as well as North West Line, Carlingford Line to Liverpool, Brookvale Line and Western Sydney Orbital Railway Line.

Sydney Harbour Heavy Rail Tunnel extends to Barangaroo, Martin Place Platforms 1 & 2, Pitt Street, Sydney Central Platforms 28 & 29, Waterloo and Bankstown Heavy Rail Line.



Darvall Road/ Tramway Street roundabout as instigated by me advise Ryde City Council Councillors and staff as intersection has a buildup of speed with passing traffic, busy for pedestrians, other motorists and traversed by Buses.

My ISPUT Website National Network Page expands in further detail regarding roll-on roll-off Rail Ferry across Bass Strait and HSR.

Sydney Central Platforms 26 & 27 will serve Bradfield Line, Western Line, XPT and HSR services to Canberra, Melbourne and HSR services to Adelaide, Darwin and Perth.



Wider Meadowbank Road Overpass would be aligned with Underdale Lane that provides for Squared off Western approach with footpath, Traffic Lights at both ends of Overpass, 4 Traffic Lanes, 2 Footpaths and lift access to Railway Platforms. Western approach aligned with Underdale Lane enables an improved design and lower grade approach road.

Carlingford Railway Line History

Carlingford Railway Line opened in 1896 as Stage 1 of a 3 Stage Line to Dural. Stages 2 & 3 were never built. My ISPUT Website has a plan to extend the Carlingford Railway Line to Liverpool via the converted Bus Transitway.

Converting the Carlingford Railway Line to Light Rail and taking Trams down Carlingford Road ignores utilising Pickford Avenue-Epping Road for Trams or improving road safety on Lawson Street, Brush Road, Rutledge Street or First Avenue.

St. Kilda Railway Line in Melbourne was converted to Light Rail in 1987. There is no comparison between the Carlingford Railway Line and the St. Kilda Railway Line for a multitude of reasons.

Carlingford Line Extension

My ISPUT Website extends duplicated Carlingford Line to Epping and Parramatta unused Platforms then onto converted Bus Transitway to Liverpool and connected onto Southern Line.

Drainage should be installed to overcome any Flooding issues for unused below grade Platforms at Parramatta Railway Station.

The new line to Liverpool would simply be called the Carlingford Line.

Parramatta-Liverpool via converted Bus Transitway Railway Line will operate at hours that all other rail services function.

24/7 Heavy Rail Train Operations

Ideally Heavy Rail services should operate on a 24/7 basis as they did previously. From 1 am-5 am trains can run as 4 car sets for security purposes.

This would be a major improvement to Night Rider Bus services. Night Rider Bus services should either be scrapped or introduce Olympic style cross country routes that currently do not operate.

On Parramatta Light Rail map there are plans to use the old Sandown Railway corridor.

Ermington Line

My ISPUT Website has the **Ermington Line** which would be entirely below grade and connect to the unused below grade Platforms at Parramatta.



Stop 14 near Victoria Road & Pennant Street Intersection.

Parramatta Light Rail Tram Route Alterations

Most of Parramatta Light Rail Stops 1-9 are supported by me.

However in order to extend the route to North Ryde rather than the Carlingford Railway corridor the following changes should be made.

From **Stop 9** the double track route would proceed along Smith Street and Wilde Avenue to Victoria Road.

Turning right into Victoria Road the double track route would proceed to Pennant Street.

Between Wilde Avenue and Pennant Street traffic volumes are relatively lighter along this section of Victoria Road.

Pennant Street is marked for 2 lanes of traffic with 2 lanes for parking. Tram Tracks would not affect this lane configuration for motorists and residents.

Pennant Street then continues into 6 Lane Kissing Point Road. Along Kissing Point Road is a catchment area of many residents and St. Patrick's Marist College.

Tram Tracks on Kissing Point Road veers left into Stewart Street and turns left into Marsden Road and right into Lawson Street and right into Brush Road and left into Rutledge Street. Rutledge Street flows into First Avenue to Blaxland Road intersection.

Tram Tracks turns right into Blaxland Road and left into Lovell Road. At Pickford Avenue the Tram Tracks turns left along Pickford Avenue and then turn right along the unused county road reservation to North Ryde.

County Road Reservation Eastwood-North Ryde

County Road Reservation through Eastwood and North Ryde in Sydney New South Wales was to be a 6 Lane Highway.

From Pickford Avenue-Epping Road is a grassed area the width of a 6 Lane Highway with the County Road Reservation still marked on Sydney Street Directories.

As part of a Parramatta-North Ryde Light Rail Tram Line it would not cost \$1 Million per Km to build and will connect Parramatta to Macquarie University, Macquarie University Railway Station (Heavy Rail) and Macquarie Shopping Centre.

Governor Of New South Wales Lachlan Macquarie 1810-21

Macquarie University, Macquarie University Railway Station (Heavy Rail) and Macquarie Shopping Centre are all named after Governor of New South Wales Lachlan Macquarie who served as Governor from 1810-21 and was responsible for the growth of Sydney.

Woorang Street

Tram Tracks proceeds along the unused county road reservation to Woorang Street. Woorang Street is a part of the county road reservation and for many decades did not have curb and gutter in anticipation of the construction of the county road. In recent years curb and gutter have been provided along both sides of Woorang Street.

However the nature strips along Woorang Street are quite wide and can be reduced in width to enable residents to continue to park vehicles.

Light Rail Trams are quieter than buses that proceed along nearby Tallwood Avenue which is not as wide as Woorang Street.

Tram Tracks continue along Woorang Street and unused county road reservation across Agincourt Road, Herring Road and Kent Roads and continuing along the unused county road reservation to Epping Road.

Tram Tracks continues along Epping Road and then turns right into Herring Road until the Tracks stops at the Terminus where the Pedestrian Crossing Traffic Lights are located outside Macquarie Shopping Centre, Macquarie University and Macquarie University Railway Station. Scissors Cross-over Tracks will be located at the Terminus.



Woorang Street wide verges will be reduced to accommodate on street parking and Light Rail Trams. There will stops at both ends of the street in the County Road Reservation.



Stop 15 near Pennant Street & Isabella Street Intersection with wide median marked.

Nature Strips And Verges

Currently across Australia in every council area 99.99% of residents mow and look after the Nature Strips and Verges in front of their property.

People out of pride in the appearance do this and saves all councils Millions of Dollars each year.

Then on the other hand councils also say that they do not have the money to install concrete footpaths on both sides of the street for mothers with strollers, people in wheelchairs and walker frames and a firm surface to walk along generally.

By reducing the width of nature strips and verges councils can install footpaths thus saving residents time and money.

Along Lovell Road, Pickford Avenue and Woorang Street this principle can apply when extending the Parramatta Light Rail Line to North Ryde via Kissing Point Road, Stewart Street and County Road Reservation.

Grand Avenue Tram/Train Double Track Diamond Junction

Tram Tracks will traverse Grand Avenue from the Light Rail Depot and along Tramway Avenue. This will result in Tram Tracks intersecting with the Carlingford Railway Line at Camellia Railway Station.

Tram/Train Double Track Crossing will be installed where 2 Tram Tracks cross over the Duplicated Carlingford Railway Line on Grand Avenue.

When this junction is installed it will be a Diamond Junction where the 4 Tracks cross each other at grade level.

As indicated at the top of this submission I support the Carlingford Line being duplicated and extended to Liverpool via the converted Bus Transitway.

Until such time as the Carlingford Line extends to Liverpool, a Double Track Tram/Train Diamond Junction will be installed on Grand Avenue at Camellia Railway Station.

Double Track Tram Overpass

A Short Double Track Tram Overpass will be built from the unused County Road Reservation veering left into the middle of Epping Road.

Tram Overpass will be for Trams only. Pedestrian Footbridge spans Epping Road at Paul Street.

Tram Overpass Dimensions

4.7 metre Height however Epping Road dips down at this point.
30 metre Length from County Road Reservation

Tram Ramp

Length from Overpass 600 metres however Tram Ramp may curve from centre to the County Road Reservation should the required gradient of the ramp be too steep.

Height of 4.7 Metres is the same as the Epping Road Overpass that spans nearby Lane Cove Road.

Epping Road will be widened from Herring Road to Lyon Park Road for road lanes that enable Tram Tracks and reservation to traverse the centre which makes future extensions towards Vimiera Road easier to build.

Spoil from clearance of County Road Reservation will be used in Ramp for centre of Epping Road from Tram Overpass.

County Road Reservation is quite wide at Epping Road however Epping Road slopes down towards the County Road Reservation and will be more practical and economically feasible to build a short double track overpass rather than a tunnel.

Epping Road will be widened from Herring Road to Lyon Park Road for road lanes that enable Tram Tracks and reservation to traverse the centre which makes future extensions towards Vimiera Road easier to build.

Epping Road History

Eastwood-St. Leonards Railway Bill 1927

In 1927 the New South Wales Parliament passed a Bill for an Eastwood-St. Leonards Railway along what is now Epping Road. As with many other Railway Plans this did not proceed.

Epping Road became nicknamed 'Spooner's Highway' after the Member for Ryde Eric Spooner who served in the New South Wales Parliament from 1932-40.

However Light Rail for Epping Road will not be Heavy Rail. Light Rail for Epping Road could extend along towards Vimiera Road where the median strip is very wide and suited for Light Rail.

Routes 1, 2, 3, 4, 5 and 6 will have Pantographs on top of Tram Cars as per the Randwick, Kingsford and most of George Street Light Rail Lines.

Route Colours

Each Route will have individual colour Tram Stop signage that identifies what Tram Line a passenger is travelling on. These being:

Route 1 Orange

Route 2 Dark Blue

Route 3 Yellow

Route 4 Green

Route 5 Blue

Route 6 Red

Where different route traverses the same road then Tram Stop signage will have dual colours on the same sign.

Route 1 Parramatta Park Line

Parramatta Park Line will traverse both side of Parramatta Park from Westmead to O'Connell Street.

Parramatta Jail Site has for too long been evidence of State Government dithering from both Labor and Liberal. When in Government either Party does not have the money to upgrade the facility and does not know what to do with the site as something other than a Jail.

Berejiklian Government is redeveloping Parramatta Stadium and Pool sites on O'Connell Street yet Light Rail is to go through historic Cumberland Hospital site just to get to Factory Street and Church Street.

Light Rail on O'Connell Street will serve Parramatta Stadium, Pool, Parramatta Leagues Club and also many residents.

Westmead Double Track Tram Loop

Light Rail to Westmead Hospital is essential yet the Line needs to traverse a double track loop and back along Park Parade and connect with O'Connell Street.

As a double track loop this provides for service efficiency and avoids congestion that a single track loop would bring. If Trams are held up on a single track loop this simply leads to a bank up of Tram Cars. Double Track Lines have cross-over tracks that enable Trams to by-pass a delay.

Double Tracks will continue from Park Parade, Alexandra Avenue, Hawkesbury Road, Hainsworth Street, Park Avenue, Railway Parade and with Sets of Points back onto Hawkesbury Road. Scissors Cross-Over Tracks would also be installed near

- Stop 11 Westmead Hospital
- Stop 12 Westmead Children's Hospital
- Stop 13 Hainsworth Street

Double Tram Track would be laid along Park Parade so cost of running Trams back the same way is negligible compared to the cost of clearing a path through Cumberland Hospital site.

Parramatta Park Heritage Fencing

Parramatta Park was officially gazetted a Park in 1858.

Currently there is Heritage Fencing along O'Connell Street near Old Government House Gates.

While Tram Cars will have a modern look Heritage Fencing will enhance Parramatta Park along Park Avenue between Hainsworth Street and Railway Parade.

Route 1 is named Parramatta Park Line as the line traverses both sides of Parramatta Park.

Light Rail along Alexandra Avenue and Park Parade provides a picturesque view of Parramatta Park and Golf Course.

Current Tram Stop 1 is slated to be located near Hawkesbury Road/Alexandra Avenue intersection that has a set of traffic lights with 3 of the 4 sides of the Squared Intersection with Directional Arrows on Traffic Lights.

As a through line this would serve Westmead and this intersection more beneficially rather than a Terminus in this area.

While Hawkesbury Road Overpass at Westmead Railway Station may have a Bus Lane this road is far from ideal for a Tram Terminus notwithstanding the route to connect Cumberland Hospital with Church Street.

Clearing a path for Tram Tracks through Cumberland Hospital near Factory Street makes the cost of the project unsustainable.

My EIS Submission contains areas where Trams and Traffic are separated at intersections. Current Tram Stop 11 on Tramway Avenue would be retained with services traversing the centre of Grand Avenue that leads to a Double Track Diamond Junction at Camellia Railway Station.

Tramway Avenue also crosses over Clay Cliff Creek that would require at grade Over Pass.

Tramway Avenue would retain Car Park area in a reconfigured location along with landscaping and Tree Planting.

Tram Services would start from a stop near Tram Depot.

Future Tram Extension with Sets of Points at Factory Street/Church Street intersection that takes the Line to Power House Museum Castle Hill.

Route 2 North Ryde Line

Macquarie Street/Smith Street intersection will have Sets of Points enabling Services to head to North Ryde.

This is consistent with my Position of extending the Carlingford Railway Line to Epping and Liverpool via converted Bus Transitway.

Buses would have the opportunity of new route feeder services to Light Rail and Heavy Rail Lines.

Future Extensions

Route 3 Marsfield Line

Route 4 Denistone East Line

Route 5 Brush Farm Park Line

Route 6 Castle Hill Line

Route 3 Marsfield Line

Route 3 Serves Marsfield from Sets of Points on Epping Road at Herring Road (Herring Road Junction) that enables Trams to continue to Vimiera Road.

From Vimiera Road Tram Tracks would turn right at Epping Road traversing Dayman Place and continue to Waterloo Road turning right. Traversing Waterloo Road and turning left at Culloden Road which then traverses Culloden Road to Talavera Road where Tram Tracks turns right.

Traversing Talavera Road and then turning right at Herring Road to connect with the Herring Road Terminus which will have scissors cross-over Tracks at both ends of the Terminus.

This extension would proceed along the boundary of Macquarie University, passing Macquarie University Students Housing and residential areas where Marsfield is poorly served by Public Transport.

Route 4 Denistone East Line

Route 4 Serves business areas of Macquarie Park and shopping centres at Cox's Road and Midway.

Commencing at the Herring Road Terminus Tram Tracks proceed along Herring Road to Waterloo Road. Sets of Points (Waterloo Road Junction) enable Trams to traverse Waterloo Road across Lane Cove Road to Wicks Road.

At Wicks Road Tram Tracks turns right and proceeds across Epping Road to Cox's Road. From Cox's Road Tram Tracks continues to Epping Road and turns left along Lane Cove Road.

Nature Strips on both sides of Lane Cove Road between Cox's Road and Bridge Road will be cutback slightly, Power Poles set back with median strip removed.

Traversing Lane Cove Road Tram Tracks then turns right at Bridge Road. Tram Tracks traverses Bridge Road and turns left at Smalls Road proceeding to Quarry Road.

Tram Tracks turns right at Quarry Road and continues until Midway Intersection where North Road, Quarry Road and Lovell Road all intersect.

Tram Tracks traverses Lovell Road and joins Route 1 at the Pickford Avenue Sets of Points. (Pickford Avenue Junction)

Route 5 Brush Farm Park Line

Route 5 serves Balaclava Road and Rutledge Street where high passenger volumes will require more intensive services.

Commencing at Brush Farm Park Stop 23 near Marsden Road/ Brush Farm Park outside Brush Park Bowling Club as listed for Route 1 Tram Tracks proceeds along route 1 to First Avenue/Ryedale Road Junction. Tram Tracks turns left into Ryedale Road and onto Blaxland Road. Tram Tracks traverses Blaxland Road and turns right at Balaclava Road.

Tram Tracks traverses Balaclava Road to Epping Road. Tram Tracks turns right at Epping Road and traverses Epping Road to Herring Road. Tram Tracks turns left at Herring Road and terminate at Herring Road Terminus.

Route 6 Castle Hill Line

Route 6 serves Parramatta-Castle Hill Power House Museum.
Sets of Points at Church Street/ Dunlop Street intersection to Power House Museum Castle Hill.

Beyond Routes 3-6

Light Rail Lines from Parramatta, John Street Rydalmere Wharf, Sydney Olympic Park and Merrylands will need to connect with Sydney CBD.

Same technology with Overhead Wiring and Pantographs makes for a better network and is more economical to install.

Route Numbers will be reviewed when Light Rail Lines connects with Sydney CBD. All Light Rail Lines will also be given names as per Routes 1-6.



Double Track Tram Overpass joins centre of Epping Road from grassed County Road Reservation on left hand side with Epping Road to be widened on right hand side.

Epping Road Additional Lanes

Where the Tram Overpass leads onto Epping Road, from Herring Road to Lyon Park Road additional lanes will be added to Epping Road as the width of roadside verge exists to thus enable current right hand turn lanes for Epping Road onto Herring Road to be unaffected by Tram Tracks turning right at Herring Road.

Tram Tracks turning right into Herring Road will traverse across the wide corner of Epping Road and away from right hand turning traffic. Stop 38 will be located in this reservation.

Light Rail Tram Cars

Modern Light Rail Tram Cars such as the E-Class that operates on Melbourne route 96 or Lilyfield Light Rail Line in Sydney are concertinaed together can negotiate curves and bends from one street to another.



Melbourne E-Class Trams concertinaed together to negotiate curves and bends. Tram Tracks are set in mass concrete.

Light Rail Tram Cars for the Randwick and Kingsford Light Rail Lines will also be concertinaed together.

Parramatta Light Rail route to North Ryde will not result in a greater wearing of components as these modern flexible Tram Cars are designed to negotiate curves and bends.

Parramatta-North Ryde Light Rail Tram rolling stock will use Pantographs as per the Dulwich Hill, Randwick and Kingsford Light Rail Lines.

Epping Railway Station, Sydney, State of New South Wales

Currently Epping has 3 at Grade Platforms and 2 Below Grade Level Platforms.

- Platform 1 To City via Eastwood
- Platform 2 Terminates
- Platform 3 To Hornsby via Cheltenham
- Platform 5 To City via Macquarie Park
- Platform 6 To Hornsby from Macquarie Park

Epping Platform 4 is either hoarded up or waiting to be built with the Platform Number 4 set aside.

Epping Platform 4 was to be the terminating Platform for services from Parramatta in the Parramatta-Chatswood Railway Plan of 1998.

In 1998 there were plans to build the Parramatta-Chatswood Railway Line with below grade Platforms at Parramatta Railway Station having been built.

Carlingford Railway Line was to have been duplicated and below grade Epping Platform 4 is either hidden or the Platform Number 4 has been reserved for the line from Parramatta.

- Epping Railway Station will expand once the Carlingford Line is duplicated and extended to Epping.
- Epping Railway Station will expand once the North West Heavy Rail Line becomes operational.
- Epping Railway Station will expand once the Northern Line Extension is built.

Platform 1 To City via Eastwood

Platform 2 To Hurstville via Roselands

Platform 3 To Berowra via Cheltenham from Roselands and Hurstville

Platform 4 To Hornsby via Cheltenham from Eastwood and City

Platform 5 To City via Macquarie Park from Carlingford Line, Hornsby or North West Line

Platform 6 To Carlingford Line, Hornsby or North West Line from Macquarie Park

Platform 7 Terminates for Richmond-Epping via Castle Hill services

- Platforms 1-4 At Grade
- Platforms 5-7 Below Grade

Room exists now to reconfigure the At Grade Platforms and Realign Tracks.

Room exists for 4 Tracks to pass underneath Epping Road Overpass.

Platform 3 is currently off-set.

Below Grade Platform 4 is either hoarded up or Platform Number 4 set aside.

Parramatta-Chatswood Railway in 1998 included Terminating Platform 4 for services from Parramatta. This plan is an adaptation on 1998 Plan in which the Rail Union originally supported a Strathfield-Hurstville Railway Line.

Cumberland Line And Richmond-Epping Heavy Rail Services

Sydney Trains operates the Cumberland Line services between Schofields on the Richmond Line and Campbelltown on the Southern Line.

Richmond-Epping services would be similar to the Cumberland Line with Richmond on the Richmond Line and Epping on the Northern Line where the North West Line meets the Northern Line.

Richmond-Epping services as Heavy Rail leaves the Richmond Line at Schofields via Sets of Points onto the North West Line and terminates at below grade Epping Platform 7.

Some time ago **Railway Planners** said that research found that commuters alighting and boarding on the North West Line would be intensive in certain areas along the new North West Line as much as wanting to go into the Sydney CBD.

By having trains terminate below Grade at Epping Platform 7 allows high frequency services on the North West Line to experience higher loadings than a North West Branch Line configuration alone would achieve.

Richmond-Epping Via Castle Hill Heavy Rail Services

As Heavy Rail a Richmond-Epping via Castle Hill service can be introduced. Trains from Richmond at Vineyard can via Sets of Points head along the new North West Line to Epping and terminate in Below Grade Level Epping Platform 4.

Heavy Rail is so much more flexible with Sets of Points and Cross-Over Tracks.

Melbourne Airport Railway Station

In previous correspondence that I have sent to Premier of Victoria Daniel Andrews, Victoria Minister for Public Transport Jacinta Allan, New South Wales Minister for Transport Andrew Constance and Sydney Trains Chief Executive Howard Collins among others a Melbourne Airport Railway Station would have Tram Platforms parallel with Railway Platforms.

However Epping Railway Station, Sydney is not the right location for parallel Light Rail and Heavy Rail Platforms.



Stop 20 near Kissing Point Road & Quarry Road Intersection.

Benefits Of Light Rail Tram Route Alteration

Locating the Terminus at the Pedestrian Crossing Traffic Lights enables people to board and alight Trams easily and safely.

From Macquarie Shopping Centre, North Ryde people can catch a Light Rail Tram to Parramatta.

Agincourt Road, Herring Road, Kent Road

Intersection improvements can occur at Agincourt Road and Herring Road where motorists ignore the roundabout and endanger the lives of other motorists and pedestrians.

Currently there are roundabouts at Agincourt Road/ Herring Road intersection and another roundabout only a few metres away at Herring Road/Kent Road intersection. These two intersections have the county road corridor passing through which is also alongside the Kent Road Primary School.

Traffic Lights would be installed on the county road reservation at Agincourt Road, Herring Road and Kent Roads that would either see the removal of these roundabouts or make traffic flow a lot more safely.

Kent Road Primary School

Many years ago a demountable set of classrooms was placed on the county road reservation that passes alongside the school.

As this demountable building will have to be moved for the Light Rail line it will enable the Education Department to provide larger permanent classrooms at the school.

During construction of Light Rail, demountable will be relocated across Kent Road and continue to be used until new building is completed. After new building has been built demountable will be removed and new Staff Parking area located in its place.

Kent Road Primary School Staff Parking

Staff Parking is crammed into an area at the front of the school. An area on the County Road Reservation in Kent Road directly opposite the school allows for Staff Parking alongside the Light Rail line and Stop 35 enabling improvements to be made that includes installation of a garden bed area in place of current Staff Car Park.

The School has been consulted with plans for Light Rail along the County Road Reservation.

This section of Herring Road is not suited to Light Rail. Having Light Rail cross Agincourt Road, Herring Road and Kent Road will make these roads safer for all motorists and pedestrians.

Kent Road Primary School Enrolments

New school building that replaces demountable will result in an increase in school enrolments at Kent Road Primary School.

Currently demountable building is where Tram Tracks will go. Along with Trams passing through Kent Road, Herring Road and Agincourt Roads will have Traffic Lights that ensure existing conditions improve as roundabouts are ignored by motorists at present.

Costly Tram Tunnel will not give the school a better building and will not lead to an increase in enrolments.

Kent Road Primary School At Grade Level Tram Tracks

- Eastwood And Marsfield Do Not Support A Car Tunnel
- Tram Tracks Improves Roads And Community Facilities
- Brush Farm Park Netball Courts Car Parking Improved
- Future Extensions Routes 2, 3 & 4

In delivering Parramatta-North Ryde Light Rail (Low Floor Trams) with the Berejiklian Government one will have to take a stand in order to get the project completed.

Roads, Police and Education Departments will be a part of this great project and at every turn I am the only person with the answers to get the job done.

Pickford Avenue-Epping Road County Road Reservation has a number of cross streets with Kent Road Primary School in the middle.

County Road Reservation is a fenced off area set aside for a major highway that residents have long campaigned against. County Road carves up the middle of Eastwood and Shopping Centre areas.

Cross Streets that also has speed humps on them are as follows:

- Pickford Avenue
- Orange Street
- Grove Street
- North Road
- Length of Woorang Street
- Abuklea Road
- Agincourt Road
- Herring Road
- Kent Road Primary School
- Kent Road
- Epping Road

Woorang Street was supposed to be entirely bulldozed for a 6 lane Highway.

There are also many other streets that ends as cul-de-sacs or streets that backs onto this section of the County Road Reservation.

To place a costly Tram Tunnel under Agincourt Road, Herring Road and Kent Road does not give Kent Road Primary School a new building or improve safety at largely ignored roundabouts.

Costly Tram Tunnel hides Trams from primary school students who may learn something by having Trams going past the school all because the Education Department wants to get out of replacing a demountable that will be in the way of Tram Tracks.

Existing cross streets will be at grade level and Trams/Traffic control will be by Traffic Lights.

Kent Road Primary School To Macquarie University By Light Rail Tram

Kent Road Primary School to Macquarie University by Light Rail is the Tram to a good education.

School students can soon be catching a Light Rail Tram that connects Kent Road Primary School with Macquarie University.

Notwithstanding a few years of other schooling in between it just makes the path to a University Degree that much easier.

Pennant Street, Lovell Road And Pickford Avenue

Nature strips along Pickford Avenue are quite wide and can be reduced in width to enable residents to continue to park vehicles.

Nature strip along the evens house numbered side of Lovell Road is quite wide and can be reduced in width to enable residents to continue to park vehicles.

Widening Lovell Road will also require relocation of a Power Pole at the intersection of Blaxland Road/Lovell Road and other Power Poles along Lovell Road. However Tram Tracks will be placed in the centre of Lovell Road.

Pennant Street and Lovell Road are currently divided by a wide median area with Pedestrian Refuges that forms the basis to locate Island Tram Stop Platforms. Given the volumes of traffic that uses Pennant Street and Lovell Road, Pedestrian Crossings will be placed at these Tram Stops for passengers to safely cross to the curbside.



Stop 34 near County Road Reservation & Agincourt Road Intersection.

However the roundabout at the intersection of Lovell Road and Pickford Avenue may be replaced with Traffic Lights as Tram Tracks will traverse this busy intersection.

Tram Tracks allows road surface improvements to occur along Lovell Road that is marked for 2 lanes of traffic with 2 lanes for parking. Tram Tracks would not affect this lane configuration for motorists and residents.

Tram Tracks allows road improvements to occur along Rutledge Street that currently has 1 lane in either direction between Shaftsbury Road and Brush Road and in both peak hours is very busy with traffic backed up in either direction with poor ability to turn right.

Tram Tracks allows Rutledge Street to improve what currently is hazardous to drive along especially in Peak Hours.

First Avenue And Rutledge Street County Road Reserved Land

First Avenue and Rutledge Street has reserved land set aside for the construction of the county road that has not occurred.

While some properties may have to be acquired most are owned by the Roads and Maritime Authority and boundary fence lines have been set back in anticipation of the construction of the county road over many decades.

Light Rail along First Avenue and Rutledge Street to Parramatta and North Ryde will improve right hand turning ability, numbers of lanes available and general traffic and pedestrian safety.

Currently on Rutledge Street traffic flows continuously in a single line making it very difficult to enter Rutledge Street from side streets. Where traffic lights are installed at Rutledge Street/Shaftsbury Road intersection Traffic Signal phasing favours Rutledge Street and more often than not motorists are waiting for two or three cycles of Traffic Signal changes before proceeding through the intersection.



County Road Reservation with Agincourt Road in foreground facing Herring Road and Kent Road Primary School behind the trees ahead.

Tram Tracks allows road surface improvements to occur along Brush Road and Lawson Street

County Road Corridor Homes

County Road was to run as a 6 Lane Highway from Stewart Street Eastwood to Epping Road North Ryde.

County Road was to have demolished homes in Rutledge Street, Edgar Street, Welby Street and Woorang Street.

As this Parramatta-North Ryde Light Rail route is via Lovell Road and Pickford Avenue many homes will not be demolished.

Where homes may be affected in Rutledge Street and as the County Road will never be built, tenants who maintained their homes in good condition on Rutledge Street are able to buy and build a new home on the County Road Reservation between Pickford Avenue and Epping Road.

Previously State Government officials wanted to purchase properties in addition to County Road Reservation land. Use of County Road Reservation land may be enough for Light Rail and road lanes without acquiring additional properties along Rutledge Street.

Any homes built on the County Road Corridor between Pickford Avenue and Epping Road will be very close to the new Light Rail Line.

Kent Road Primary School has a demountable on the County Road Reservation at present which will have to be moved for the new Light Rail Line.

Eastwood Police Station is also able to move to a new site on the County Road Reservation near Pickford Avenue with the New South Wales Government coming out ahead financially from such a move.



Roundabout at this intersection of Lovell Road and Pickford Avenue may be replaced with Traffic Lights as Tram Tracks will traverse this busy intersection.

Should the Berejiklian Government sell parcels of land for homes along the County Road Reservation between Pickford Avenue and Epping Road there will be a precedent as the Askin Government sold the reserved Northern Beaches Railway Corridor in the 1960's.

Parramatta-North Ryde Light Rail via Rutledge Street and Pickford Avenue-Epping Road County Road Reservation will end that uncertainty.

First Avenue/Blaxland Road Intersection

Currently the Roads and Maritime Authority owns land on either side of First Avenue at Blaxland Road Intersection that was set aside for the County Road many decades ago.

Light Rail to Parramatta and North Ryde will allow improvements to occur and use of this spare land to be made.

On the left hand side of First Avenue traffic lanes for left hand turn will be realigned. On the right hand side of First Avenue Tram Tracks will veer to the right on a Trams Only reservation Tram Stop 25 will be located.

North Bound Blaxland Road Stop Line at this intersection will be set further back. The current left hand slip lane will be set further back.

South Bound Blaxland Road right hand turn lane will be set back slightly however Tram Tracks at the intersection will not impede on the ability of Blaxland Road Traffic to turn right.

Timing of Traffic Lights for Blaxland Road right hand turn will be synchronised with Tram 'T' Lights to allow for Trams to enter and exit the reserved right hand side reservation and Tram Stop 25.

Blaxland Road left hand turn traffic into First Avenue will be controlled by Traffic Lights. First Avenue left hand turn traffic into Blaxland Road will be controlled by Traffic Lights.



Waiting traffic in First Avenue with Stop 25 and Tram Tracks in grassed reservation on left hand side of First Avenue as Tram Tracks will be clear of traffic turning right at Blaxland Road on right of intersection out of Picture.

Timing of Traffic Lights will also require alteration at nearby Blaxland Road/ Lovell Road intersection.

Lovell Road Drainage Lintels

Currently Ryde City Council is installing drainage lintels on both sides of Lovell Road near Hollis Avenue intersection.

Route 1 Parramatta-North Ryde Light Rail (Low Floor Trams) will traverse a widened Lovell Road past Hollis Avenue.

Drainage Lintel on the odd side of the street will be unaffected.



County Road Reservation with Rutledge Street on the right hand side. Tram Tracks will enable Rutledge Street to have more than one lane in each direction and safer right hand turning conditions for all vehicles.



Stop 26 near Lovell Road & Hollis Avenue Intersection with wide Nature Strip and Pedestrian Refuge.

Drainage Lintel can be set back at a later date on the evens side of the street with pipes connected to the relocated Drainage Lintel.

Tram Tracks will be set in mass concrete and have a different shaped drainage lintel along the Tram Tracks.

Rutledge Street Speed Markings

Roads and Maritime (RMS) have repainted on Rutledge Street Eastwood 40 km/h speed signs on the road. This is great work to repaint these speed signs by the RMS.

When Rutledge Street and First Avenue is widened to convey Tram Tracks these speed signs will be repainted. Tram Tracks will result in a safer Rutledge Street and a safer First Avenue.

Many years ago a Ryde City Council General Manager provided me with the correct term for a drainage entry point as I had described a Drainage Lintel.

Even with all the pieces of paper in the world one does not gain enough knowledge in life. Every School and TAFE Teacher who has taught me has said that the course only provides people with the basics required.

Traffic Light Changes

Where Tram Tracks proceeds through intersections that currently have Traffic Lights then these signals will be adjusted for Tram movements.

Where Tram Tracks proceeds across roads that intersect with County Road Reservation particularly between Pickford Avenue and Epping Road then Traffic Lights will be installed for the safe movement of Trams, Pedestrians and Motorists.

Cross Streets that also has speed humps on them are as follows:

- Pickford Avenue
- Orange Street
- Grove Street
- North Road
- Abuklea Road
- Agincourt Road
- Herring Road
- Kent Road
- Epping Road

Adelphi Road

Adelphi Road runs off Herring Road and ends at the County Road Reservation. A few years ago a Leash Free area was established for dogs to roam.

Light Rail Trams will not require the removal of this Leash Free Area however the Leash Free Area will have to be reconfigured.

Light Rail Trams will not require the removal of a new Car Park that is currently being constructed however the Car Park will have to be reconfigured.



Signage outside Brush Farm House built by explorer Gregory Blaxland.

Adelphi Road will have Tram Stop 36 along with Kent Road Tram Stop 35 and Scott Street Tram Stop 37 that have large catchment areas along with Sporting Fields such as ELS Hall Park. The next stop after Scott Street is not until after the Tram Flyover and at Epping Road/Herring Road intersection which is Tram Stop 38.

History

City of Ryde is Australia's third oldest settlement after Sydney and Parramatta and so various Light Rail Tram Stops will be named after famous persons, points of interest or locality.

Explorers Gregory Blaxland, William Lawson and William Charles Wentworth crossed the Blue Mountains in 1813.

- Blaxland Road is named after Gregory Blaxland
- Lawson Street is named after William Lawson
- Wentworth Road is named after William Charles Wentworth

Brush Farm House on Lawson Street was built circa 1820 by Gregory Blaxland.

Stops 25, 20, 22

As the Blue Mountains were crossed by Blaxland, Lawson and Wentworth Stops 25, 20 and 22 would simply be called Blaxland, Lawson and Wentworth respectively. These stops will have historical information and images of Gregory Blaxland, William Lawson and William Charles Wentworth.

Stop 41

Macquarie Terminus is named after Macquarie University, Macquarie University Railway Station and Macquarie Shopping Centre which were all named after New South Wales Governor Lachlan Macquarie and as such Stop 41 would simply be called Macquarie Terminus. The Terminus will have historical information and images of Governor Lachlan Macquarie.



Brush Farm House built by explorer Gregory Blaxland.

Route 1 Parramatta Park Line Tram Stops

Stops 1-9 In Brackets As Per Original Parramatta Light Rail Map

- Stop 1 near Grand Avenue/Colquhoun Street Intersection
- Stop 2 near Grand Avenue/Rosehill Racecourse Entrance
- Stop 3 near Tramway Avenue/Clay Cliff Creek with At Grade Tram Overpass
- Stop 4 near Macquarie Street/Robin Thomas Reserve
- Stop 5 near Macquarie Street/Smith Street Intersection
- Stop 6 near Macquarie Street/Church Street Intersection
- Stop 7 near Macquarie Street/Parramatta Park Entrance
- Stop 8 near Park Parade/Pitt Street Intersection
- Stop 9 near Alexandra Avenue/Hassall Street Intersection
- Stop 10 near Hawkesbury Road/Railway Parade Intersection (Stop 1)
- Stop 11 near Hawkesbury Road/Queens Road Intersection (Stop 2)
- Stop 12 near Hawkesbury Road/Jessie Street Intersection (Stop 3)
- Stop 13 near Hainsworth Street/Children's Hospital Entrance
- Stop 14 near Park Avenue/Jessie Street Intersection
- Stop 15 near Park Avenue/Queens Road Intersection
- Stop 16 near Railway Parade/Alfred Street Intersection
- Stop 17 near Hawkesbury Road/Railway Parade Intersection (Stop 1 Return Trip),
- Stop 18 near Alexandra Avenue/Hassall Street Intersection
- Stop 19 near Park Parade/Pitt Street Intersection
- Stop 20 near Macquarie Street/Parramatta Park Entrance
- Stop 21 near O'Connell Street/ George Street
- Stop 22 near O'Connell Street/Victoria Road

Stop 23 near O'Connell Street/ Fennell Street Intersection
 Stop 24 near O'Connell Street/Albert Street Intersection
 Stop 25 near O'Connell Street/Factory Street Intersection
 Stop 26 near O'Connell Street/Dunlop Street Intersection (Near Parramatta Jail site)
 Stop 27 near Church Street/ Dunlop Street Intersection
 Stop 28 near Church Street/ Factory Street Intersection
 Stop 29 near Church Street/ Albert Street Intersection
 Stop 30 near Church Street/ Fennell Street Intersection (Stop 6)
 Stop 31 near Church Street/Prince Alfred Park (Stop 7)
 Stop 32 near Church Street/Phillip Street Intersection (Stop 8)
 Stop 33 near Macquarie Street/ Horwood Place Intersection (Stop 9)
 Stop 34 near Macquarie Street/Smith Street Intersection
 Stop 35 near Macquarie Street/Robin Thomas Reserve
 Stop 36 near Tramway Avenue/Clay Cliff Creek with At Grade Tram Overpass

Route 2 North Ryde Line Tram Stops

Stop 1 near Grand Avenue/Colquhoun Street Intersection
 Stop 2 near Grand Avenue/Rosehill Racecourse Entrance
 Stop 3 near Tramway Avenue/Clay Cliff Creek with At Grade Tram Overpass
 Stop 4 near Macquarie Street/Robin Thomas Reserve
 Stop 5 near Macquarie Street/Smith Street Intersection
 Stop 6 near Smith/Phillip Street Intersection
 Stop 7 near Wilde Avenue/Victoria Road Intersection
 Stop 8 near Victoria Road/Betts Street Intersection
 Stop 9 near Victoria Road/ Macarthur Street Intersection
 Stop 10 near Victoria Road/Pennant Street Intersection
 Stop 11 near Pennant Street/ Isabella Street Intersection
 Stop 12 near Kissing Point Road/Bettington Road Intersection
 Stop 13 near Kissing Point Road/ Carlingford Line Overpass and Dundas Railway Station
 Stop 14 near Kissing Point Road/Park Road Intersection
 Stop 15 near Kissing Point Road/Sturt Street Intersection opp St. Patrick's Marist College
 Stop 16 near Kissing Point Road/Quarry Road Intersection
 Stop 17 near Stewart Street/ King Street Intersection
 Stop 18 near Stewart Street/Albert Brown Park
 Stop 19 near Marsden Road/ Brush Farm Park outside Brush Park Bowling Club
 Stop 20 near Lawson Street/ Brush Farm Park opposite Brush Farm House
 Stop 21 near Brush Road/ Brush Farm Park opp Eric Street
 Stop 22 near Rutledge Street/ Wentworth Road Intersection
 Stop 23 near Rutledge Street/ Trelawney Street Intersection
 Stop 24 near East Parade/ First Avenue Intersection and Eastwood Railway Station
 Stop 25 near First Avenue/Blaxland Road Intersection then Tracks veers to right
 Stop 26 near Lovell Road/ Hollis Avenue Intersection
 Stop 27 near County Road Reservation/Pickford Avenue Intersection
 Stop 28 near County Road Reservation/ Orange Street Intersection
 Stop 29 near County Road Reservation/Grove Street Intersection
 Stop 30 near County Road Reservation/ Waratah Avenue

Stop 31 near County Road Reservation/ North Road Intersection
 Stop 32 near County Road Reservation/Abuklea Road Intersection
 Stop 33 near County Road Reservation/ Fay Place
 Stop 34 near County Road Reservation/ Agincourt Road Intersection
 Stop 35 near County Road Reservation/ Kent Road Intersection
 Stop 36 near County Road Reservation/Adelphi Road
 Stop 37 near County Road Reservation/Scott Street
 Stop 38 near Epping Road/ Herring Road Intersection then Tracks veers to right
 Stop 39 near Herring Road/ Ivanhoe Place Intersection
 Stop 40 near Herring Road/Windsor Drive Intersection
 Stop 41 Herring Road 2 Platform Island Terminus with scissors cross-over Tracks

Parramatta Light Rail Tram Routes 1 & 2 Features

Stop 00 Light Rail Depot Corner Grand Avenue/Colquhoun Street
 Double Track Diamond Junction at Camellia Railway Station
 Sets of Points at Macquarie Street/Smith Street Intersection to Routes 1 & 2
 Sets of Points at Macquarie Street/Church Street Intersection to Routes 1 & 2
 Sets of Points at Hawkesbury Road/Railway Parade Intersection
 Sets of Points at Macquarie Street/O'Connell Street to Route 1
 Sets of Points at Church Street/ Dunlop Street to Route 6
 Sets of Points at First Avenue/Ryedale Road to Route 5
 Sets of Points at Pickford Avenue/Lovell Road to Route 4
 Sets of Points at Epping Road/ Herring Road to Route 3
 Sets of Points at Herring Road/Waterloo Road to Route 4
 Sets of Points at Balaclava Road/Epping Road to Route 5
 Stop 00 Light Rail Depot On County Road Reservation Near Tram Overpass
 Short Double Track Overpass Into Epping Road

Parramatta Light Rail Tram Tracks

Parramatta-North Ryde route is not a Heavy Railway Line. Heavy Railway Lines are solely off street running.

Tram Tracks in roads are 2 rails sitting side-by-side. 1 rail faces upwards and the other rail faces downwards to form a groove for the bogies of the Tram Cars in which to move safely.

Tram Tracks to be used for off street running will be positioned as Heavy Railway Tracks such as

- Central reserve of Stewart Street,
- Central reserve of Epping Road,
- Pickford Avenue-Epping Road County Road Reservation
- Tram Overpass.