



**THE CASE FOR**

**THE TRAIN TO**

**GILLIESTON HEIGHTS**

**KURRI KURRI**

**WESTON**

**ABERMAIN**

**NEATH**

**KEARSLEY**

**CESSNOCK**

**BELLBIRD**

**The best value rail project in Australia**

**We call on the NSW State Government to:**

1. Immediately move to acquire the rail corridor from Maitland to Bellbird from its current owners, and
2. Commit to getting passenger services operating on the corridor as soon as possible, but at least prior to the end of 2028, and
3. Allocate initial funding for full business case and design in the 2024/25 state budget.

# Summary

## 1. The need

Cessnock Local Government Area (LGA) is in desperate need of better public transport. Anyone who lives in the Cessnock and Kurri Kurri areas knows that this is the case.

Consultation conducted in developing the 2018 Cessnock LGA Traffic and Transport Strategy revealed that inadequate public transport was the second most prevalent concern raised (20% of all concerns raised). Combined with related concerns that enhanced public transport might alleviate (road congestion and safety), this made up 49% of all concerns raised.

*... while Cessnock LGA is expected to continue to be a car-dependent city, a balanced investment in public and active transport infrastructure is required to provide greater choice of travel modes. ... Increasing the use of public transport is a fundamental need of the Cessnock community and to support future growth in the region in a sustainable way.*

CESSNOCK CITY COUNCIL – Cessnock LGA Traffic and Transport Strategy 2018, p31 and p80

The 2023 Cessnock LGA Traffic and Transport Strategy now forecasts the population of the Cessnock LGA to grow from the current 65,000 to 112,000 by 2041 – growth of 60%. **Introducing rail services to Cessnock is now an immediate and necessary response to a rapidly changing demographic.**

## 2. The Benefits

**The Train to Cessnock can provide a journey from Cessnock to Newcastle in less than 1 hour.** This journey time is comparable to car transport and means that the service would be viable and would be used, alleviating congestion and enhancing liveability for around 50,000 people who currently live along the corridor, plus those moving into the area.

In addition to providing a vital public transport solution, the Train to Cessnock will help to address other key issues for the local community, many of which are also critical issues for NSW as a whole:

- Providing education and employment opportunities to people along the corridor.
- Providing access to affordable housing and supporting housing development.
- Enhancing sustainability and reducing greenhouse emissions.
- Encourage community development for needy communities.

## 3. Why do it now?

Beyond the urgent need to provide a viable public transport service to the growing Gillieston Heights, Kurri Kurri and Cessnock communities, there are three critical reasons why this initiative should be progressed immediately.

1. Use of the Maitland to Cessnock corridor for transporting coal has now ceased.
2. The corridor is currently in a serviceable condition, meaning the cost to upgrade for passengers is low. If the railway line is left to deteriorate the extent of works required, and cost, will be much greater than it is now.
3. The opportunity exists to use otherwise redundant rolling stock, meaning that there would be limited costs in securing the necessary rolling stock for the service.

**Right now, there is an opportunity to acquire the Maitland to Cessnock rail corridor and commence passenger operations for a very modest price.**

## 4. The best value rail project in Australia

Other passenger rail projects in Australia typically cost upwards of \$20,000 (and often closer to \$50,000 or more) per person in the catchment area. The Train to Cessnock would equate to **between \$2,000 and \$4,000 per person** to provide a rail service. What a bargain!

**The Train to Cessnock is a no brainer. We call on the NSW State Government to commit to the project, acquire the corridor and to allocate funding in the 2024 budget for business case and design.**



# 1. The Need

## Cessnock LGA is in desperate need of better public transport.

Anyone who lives in the Cessnock and Kurri Kurri areas knows that this is the case.

The 2018 Cessnock LGA Traffic and Transport Strategy recognised this need, with community consultation highlighting user concerns with current poor services:

- “The times the buses run wouldn't get me to work on time or way too early;”
- “University services do not extend throughout the day - attending evening classes by bus is impossible.”

Consultation revealed that inadequate public transport was the second most prevalent concern raised (20% of all concerns raised). Combined with related concerns that enhanced public transport might alleviate (road congestion and safety), this made up 49% of all concerns raised.

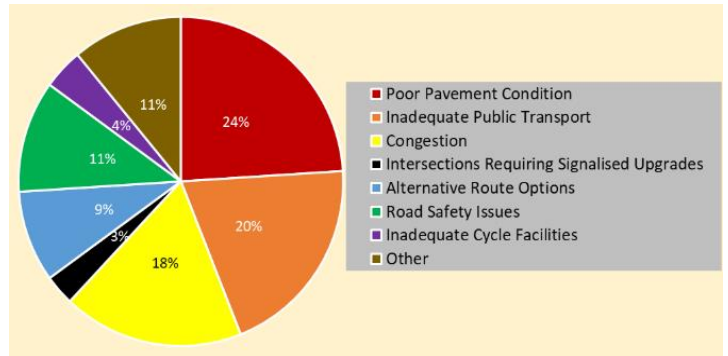


Figure 1 Key Traffic and Transport issues in Cessnock LGA, source CESSNOCK CITY COUNCIL – Cessnock LGA Traffic and Transport Strategy 2018

Despite highlighting this issue, the 2018 Traffic and Transport Strategy offered nothing in the way of solutions,

and the draft 2023 strategy (released for consultation in November 2023) is equally silent. Public transport options to Cessnock and Kurri Kurri remain restricted to a handful of bus routes serving a population of over 65,000 people and running at times that are inconvenient and do not encourage use. The draft 2023 Traffic and Transport Strategy shows that only 1.1% of trips in the Cessnock area are made using public transport – clearly because no public transport options are available that meet the needs of the community.

The 2018 Traffic and Transport Strategy identified that 23% of outbound work trips from Cessnock and Kurri Kurri were to Maitland followed by 22% to Newcastle. The Strategy also identified that the key routes to these destinations – Maitland Road, Cessnock Road, Frame Drive, Gingers Lane and the Hunter Expressway – are congested and are expected to suffer worse congestion in coming years. The draft 2023 strategy confirmed that these issues persist and are getting worse.

... while Cessnock LGA is expected to continue to be a car-dependent city, a balanced investment in public and active transport infrastructure is required to provide greater choice of travel modes.

Increasing the use of public transport is a fundamental need of the Cessnock community and to support future growth in the region in a sustainable way. If the public transport network is to achieve this, it will require considerable expansion and improvement, and best practice techniques must be adopted to improve passenger experiences.

CESSNOCK CITY COUNCIL – Cessnock LGA Traffic and Transport Strategy 2018, p31 and p80

## Gillieston Heights urgently needs flood-proof connections to surrounding areas

The July 2022 flood event isolated the entire township of Gillieston Heights (which became known as Gillieston Island) for a period of 2 weeks. Whilst this experience demonstrated the resilience and resourcefulness of residents, a repeat event cannot be tolerated in a rapidly growing community where almost all residents will travel outside the area for work and school.

Enhancements to Main Road to the south of Gillieston Heights have provided some resilience, but more is required to avoid a repeat of the July 2022 experience.



Figure 2 Gillieston Island, July 2022. (Eugene Koen)

## 2. The Opportunity

### The legacy of the South Maitland Railway

The South Maitland Railway (SMR) was a network of privately-owned rail lines extending south-west of Maitland, serving a large number of collieries. The first tracks were laid in 1893, with the network completed in the 1920s.

The rail corridor provided transportation of coal from the various mines serviced to port at Newcastle. Passenger services were introduced in 1902 and were extended to Cessnock in 1906.

Most of the network is now gone, with the exception of the trunk route from Maitland (East Greta Junction) to Kurri Kurri, Cessnock, Bellbird and extending to Pelton Colliery.

Passenger services run by SMR lasted until 1967, and the few services run by the NSW Railways ceased in 1972.

In March 2020, operations at the Austar coal mine in Pelton were suspended and coal services ceased to operate. The remaining sections of the corridor have been mothballed since. However, the railway line remains, as do abandoned stations and platforms, and the legacy of the railway is seen in the naming of Railway Parade in Kurri Kurri, Station Street in Weston and Railway Street in Cessnock, as well as the Railway Hotel in Cessnock.

### Why now?

Transport for NSW's Hunter Regional Transport Plan (July 2022) identifies establishing passenger service between Cessnock and Newcastle as 'for investigation' sometime in the next 10 years. This considered a forecast 33% population growth for Cessnock LGA by 2041. However, the draft 2023 Cessnock LGA Traffic and Transport Strategy highlights that population is now forecast to grow from the current 65,000 to 112,000 by 2041 – **an estimated 60% growth. Introducing effective public transport is no longer a strategic issue but is an immediate and necessary response to a rapidly changing demographic.**

Beyond the urgent need to provide a viable public transport service to Gillieston Heights, Kurri Kurri, Cessnock and surrounding areas, there are three critical reasons why this initiative should be progressed immediately.

1. Use of the Maitland to Cessnock corridor for transporting coal has ceased and the line is now only being used for storage of wagons. The current corridor owners, Aurizon and Yancoal, have indicated that they may be prepared to consider handing the corridor to Transport for NSW, under terms to be agreed.
2. The corridor is still classified as an active rail corridor and remains in a serviceable condition, noting that an upgrade will be required to lift it to passenger standard. If the railway line is left inactive, it will inevitably deteriorate, meaning that the works required to upgrade and restore it to use in, say, 10 - 15 years, will be substantially greater than now.
3. Transport for NSW is currently purchasing new regional rolling stock, which will enable the existing fleets to be retired in the period to 2028. The opportunity exists to refurbish a number of these trains to operate the Train to Cessnock, meaning that there would be limited costs in securing the necessary rolling stock for the service.

**Right now, there is an opportunity to acquire the Maitland to Cessnock rail corridor and commence passenger operations for a very modest price, and to provide a vital service to needy communities.**

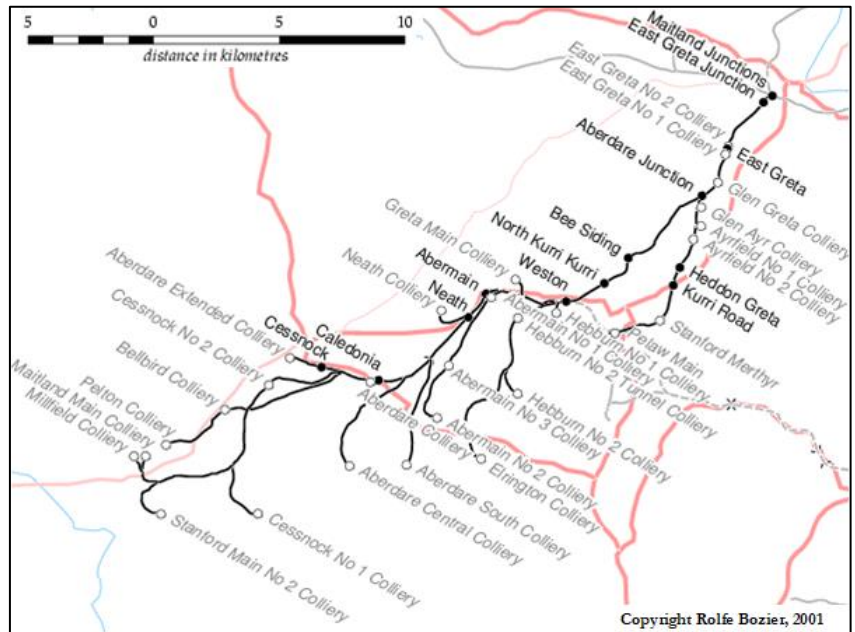


Figure 3 South Maitland Railway

When I was a kid we lived in Aberdare. I remember we'd go down to Caledonia Station and jump on the train to Cessnock, riding on the footplate with the driver - it was steam locomotives in those days. When we had spent the day in Cessnock we'd go back to the station and wait for the next train home.

Alan, long term Cessnock resident

## 3. The Corridor

The communities of Kurri Kurri, Weston, Abermain, Neath, Kearsley, Aberdare, Cessnock and Bellbird have all grown around the railway. This means that introducing passenger services on the Maitland to Cessnock corridor will not face the normal difficulties: lack of available land, the need for property resumptions and difficulties in providing appropriate station locations near population centres. These features are available and inherent in the corridor.



Figure 4 View down Station Street in Weston from the former station site. The business district is within easy walking distance.

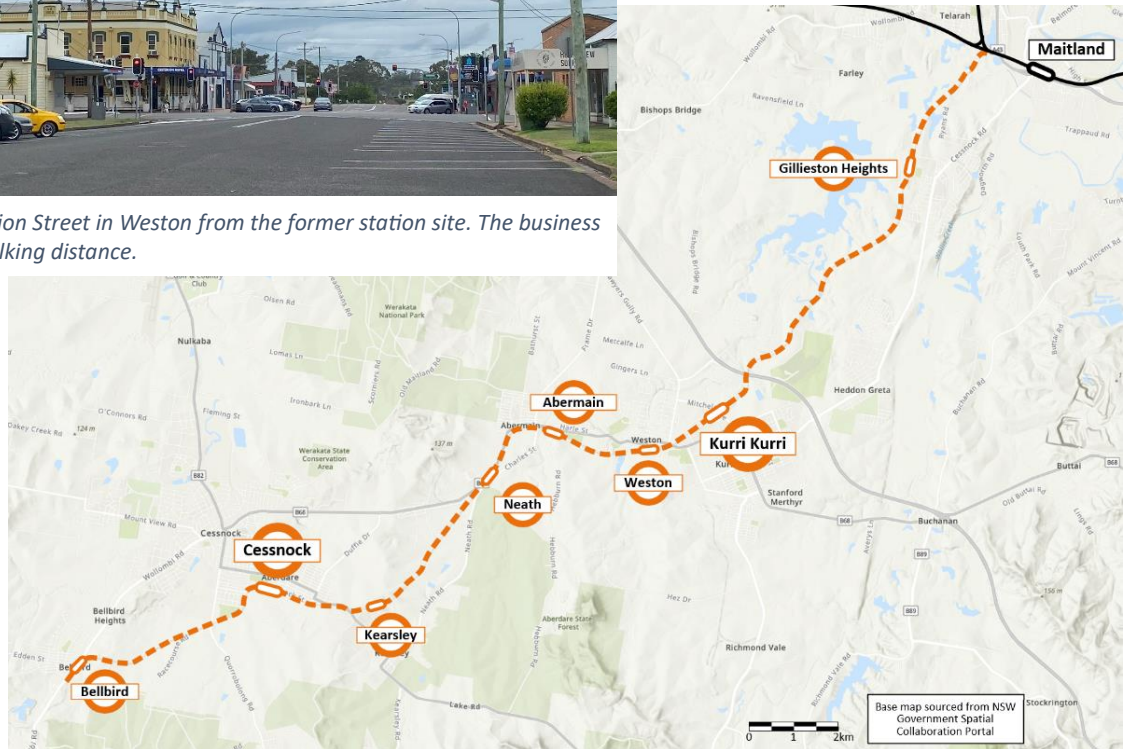


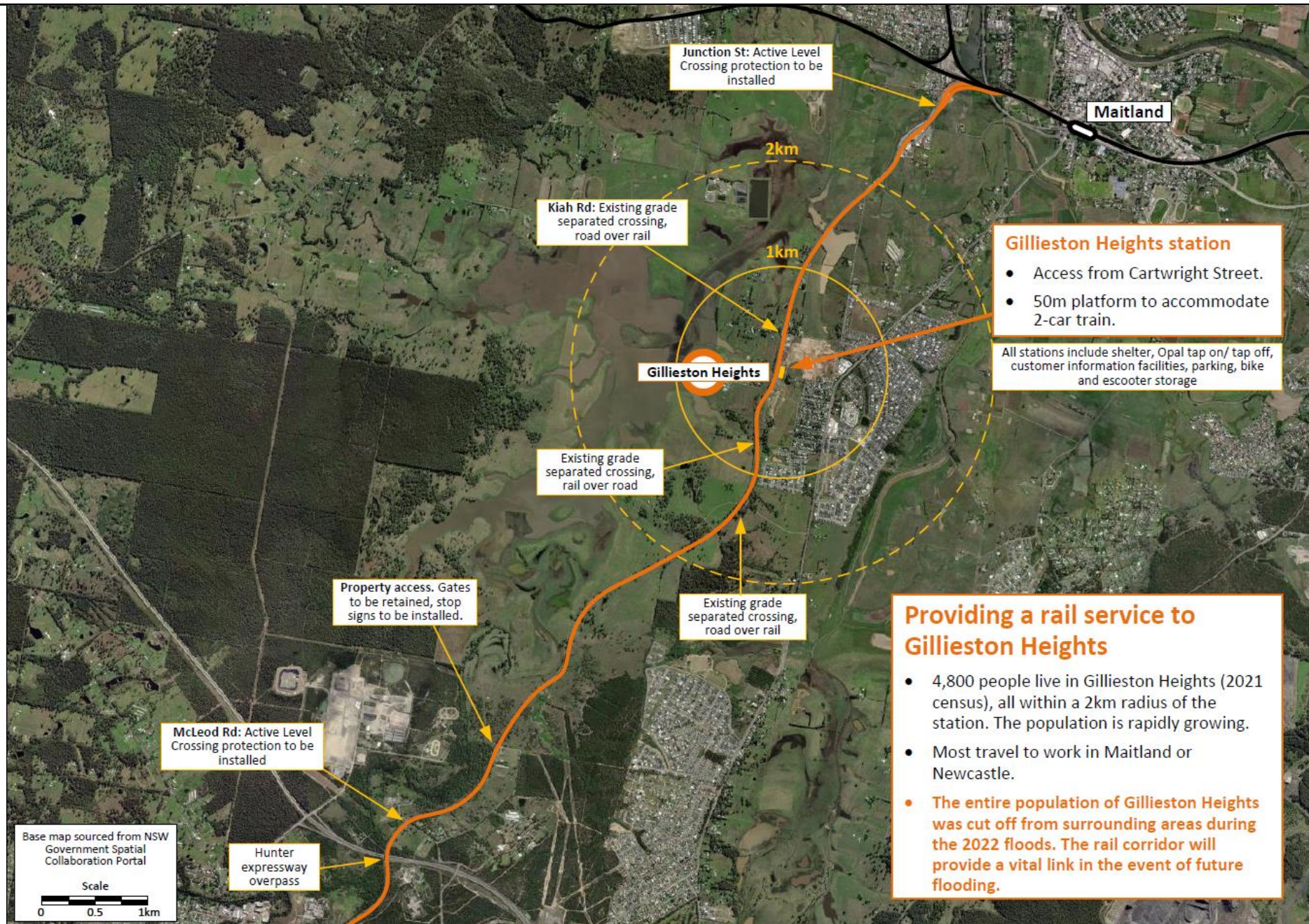
Figure 5 Maitland to Bellbird rail corridor, with potential station sites

Essential upgrades would be required to the line prior to the introduction of rail services. These include:

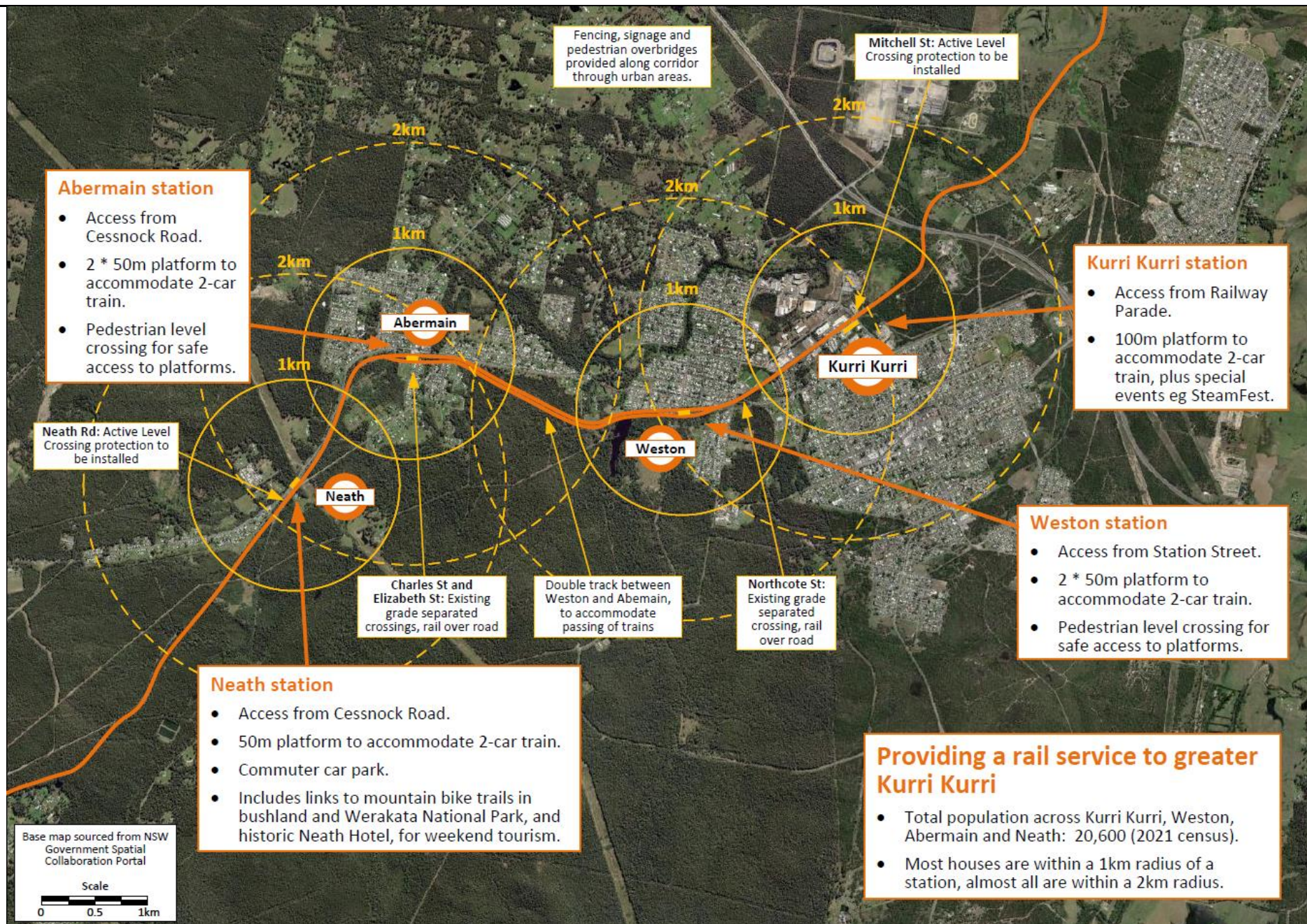
- Upgrade of the line to passenger standard, including removal of overgrown vegetation, re-establishment of the formation and drainage, replacement of old rail, sleepers and ballast, and alignment improvements to lift track speed to ensure an attractive journey time for passengers.
- Lifting of the rail line and flood proofing between Gillieston Heights and Kurri Kurri, to ensure a vital service can be maintained to Gillieston Heights in the event of a future flood event.
- Construction of a passing lane / double track to facilitate crossing of trains. Initial work suggests duplication between Weston and Abermain (including at both stations) will be required; this area was previously duplicated so the corridor is wide enough for this work.
- Signalling works and upgrade of level crossings along the corridor.
- Construction of stations, including parking areas and fencing.
- Construction of a stabling area (for 3 trains) beyond Bellbird station.

The focus of initial works should be to provide, as rapidly as possible, a quick, convenient, reliable and cost effective service to passengers along the corridor. Further works may be required in future years as passenger demand grows, such as additional areas of duplicated track and additional stations.









**Abermain station**

- Access from Cessnock Road.
- 2 \* 50m platform to accommodate 2-car train.
- Pedestrian level crossing for safe access to platforms.

**Kurri Kurri station**

- Access from Railway Parade.
- 100m platform to accommodate 2-car train, plus special events eg SteamFest.

**Weston station**

- Access from Station Street.
- 2 \* 50m platform to accommodate 2-car train.
- Pedestrian level crossing for safe access to platforms.

**Neath station**

- Access from Cessnock Road.
- 50m platform to accommodate 2-car train.
- Commuter car park.
- Includes links to mountain bike trails in bushland and Werakata National Park, and historic Neath Hotel, for weekend tourism.

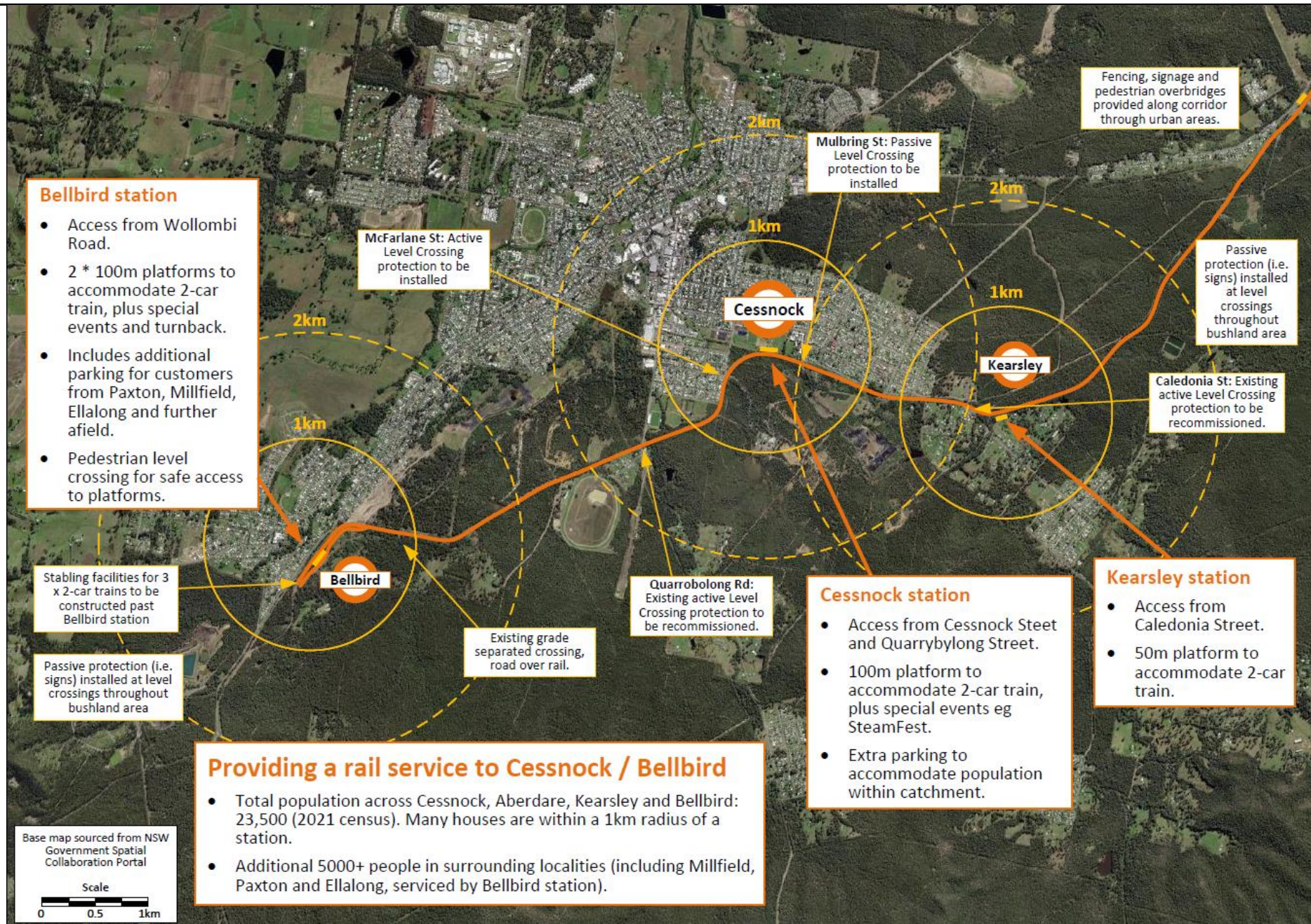
**Providing a rail service to greater Kurri Kurri**

- Total population across Kurri Kurri, Weston, Abermain and Neath: 20,600 (2021 census).
- Most houses are within a 1km radius of a station, almost all are within a 2km radius.

Base map sourced from NSW Government Spatial Collaboration Portal

Scale  
0 0.5 1km










# 4. The Stations

Stations for the Train to Cessnock will include a combination of existing platforms (suitably refurbished) and new platforms constructed in appropriate locations to service the communities along the corridor. Each station would be equipped with shelter, lighting and security, Opal tap on/ tap off, customer information facilities, car parking, and bike and e-scooter storage.

Final station locations will be dependent on community consultation and analysis of the available options, however indicative stations locations are as follows:

<p><b>Gillieston Heights</b></p>	<p>Gillieston Heights station would be a new facility, constructed at an appropriate location for convenient access – potentially near the Roy Jordan Sports Centre.</p>	
<p><b>Kurri Kurri</b></p>	<p>Kurri Kurri station could be located at the former North Kurri Kurri platform (on Railway Parade near Mitchell Street) or may be a new facility constructed further down Railway Parade for better access (e.g., near Alexandra Street).</p>	
<p><b>Weston</b></p>	<p>Weston station would re-use the former Weston platform, as this site is well located for access to homes and to the Weston business district. The station would have two platforms. A pedestrian level crossing would be provided to allow passengers to cross the track to the platform.</p>	
<p><b>Abermain</b></p>	<p>Abermain station could be located at the former platform, however a new facility constructed closer to Charles Street may provide better access for people living to the south of Cessnock Road. Like Weston, Abermain station would have two platforms, with a pedestrian level crossing provided.</p>	
<p><b>Neath</b></p>	<p>Neath station would re-use the former platform, suitably refurbished. Parking would be provided for passengers driving from East Cessnock, Nulkaba and similar areas.</p>	
<p><b>Kearsley</b></p>	<p>Kearsley station would be a new facility, with the potential location being off Ellalong Street or alternatively closer to Caledonia Steet level crossing.</p>	
<p><b>Cessnock</b></p>	<p>Cessnock station would be a new facility, with the potential location being at the back of Turner Park, accessed from Cessnock Street and Quarrybylong Street. This location may be temporary if the proposed Stage 2 alignment is pursued (see Section 10), which would enable a permanent station site in its former location in Railway Street.</p>	
<p><b>Bellbird</b></p>	<p>Bellbird station would be a new facility, with the potential location being adjacent to Wollombi Road. This station would have two platforms, to allow for terminating trains. Bellbird station would also include sufficient parking to accommodate passengers driving to the station from Millfield, Paxton, Ellalong and beyond.</p>	
<p><i>Figure 8 The four pillars at Bellbird - remnants of the old Bellbird Colliery - could be used as an historic feature with the future Bellbird Station.</i></p>		



*Figure 6 Potential location for Gillieston Heights station. Photo taken from Roy Jordan oval.*



*Figure 7 Heritage water tower at Weston, with the platform behind. The site has easy access from Station Street (foreground) and the remnant of the former second track is visible to the right.*



*Figure 8 The four pillars at Bellbird - remnants of the old Bellbird Colliery - could be used as an historic feature with the future Bellbird Station.*



# 5. The Train Service

## Rolling Stock

Transport for NSW is currently purchasing the Regional Rail Fleet, to replace existing XPT, Explorer and Endeavour trains on regional and interstate rail services. The first of the Regional Rail Fleet trains is scheduled to enter service in 2025, with the last due to enter service around 2027.

As the Regional Rail Fleet is introduced, Transport for NSW's intention is that all XPT, Explorer and Endeavour trains are retired, with the exception of a small number of Endeavour trains that will be refurbished and relocated to Broadmeadow to augment the existing Hunter fleet.

To support the Train to Cessnock, it is proposed to refurbish and relocate an additional number of trains – analysis shows that 4 or 5 trains will be required. This means that **there is minimal cost involved in providing rolling stock for the Train to Cessnock.**



Figure 9 Endeavour train

Consistent with other train operations in the Hunter, the Train to Cessnock would be operated with a 2-car unit, with a passenger capacity of around 150 people per train.

## Timetable

The current timetable of train services between Maitland and Newcastle allows for ample space to provide a robust service to Kurri Kurri, Cessnock and all stations in between. Services for the Train to Cessnock could be existing Telarah services redirected to Cessnock, however a better option may be to introduce new services specifically for this route, which would also provide benefits to the people of Maitland and East Maitland.

	a.m.	↓	a.m.	a.m.
Cessnock ..... lv	5 30	6 44	7 2	9 30
Caledonia .....	5 33	..	7 5	9 33
Neath .....	5 39	..	7 11	9 39
Abermain .....	5 41	..	7 13	9 41
Weston .....	5 45	6 57	7 17	9 45
Kurri Kurri .....	5 47	6 59	7 19	9 47
Bee Siding .....	..	..	a	a
East Greta .....	5 57	..	7 29	9 57
East Greta Jct. ....	6 1	..	7 33	10 1
Maitland .....	6x 4	7 11	7x36	10x 4
Connecting train leaves Maitland .....	6 14	7 12	7 42	10 10
Arrives Newcastle .....	7 5	7w48	8 34	10 53

Figure 10 Extract of 1966 timetable showing trains from Cessnock to Newcastle. Note the 1:04 journey time for the express service, including a change of trains at Maitland.

A minimum hourly service (each way) should be established, with additional peak direction trains to provide half-hourly services from Bellbird in the morning, and to Bellbird in the evening. This would provide sufficient frequency for the train to be a viable option for many purposes, including for traveling to work in Newcastle or Maitland and travel to Newcastle University. All trains would operate express from Maitland to Newcastle, stopping only at Victoria Street, Warabrook (for Newcastle University) and Hamilton. The additional peak services would operate express beyond Maitland, stopping only at Kurri Kurri, Cessnock and Bellbird.

Station to	Station From											
	Bellbird	Cessnock	Kearsley	Neath	Abermain	Weston	Kurri Kurri	Gillieston Heights	Maitland	East Maitland	Warabrook	Hamilton
Bellbird												
Cessnock	4 (4)											
Kearsley	7	3										
Neath	10	6	3									
Abermain	13	9	6	3								
Weston	16	12	9	6	3							
Kurri Kurri	18 (14)	14 (10)	11	8	5	2						
Gillieston Heights	25	21	18	15	12	9	7					
Maitland	30 (25)	26 (21)	23	20	17	14	12 (11)	5				
East Maitland	34 (29)	30 (25)	27	24	21	18	16 (15)	9	4			
Warabrook	49 (44)	45 (40)	42	39	36	33	31 (30)	24	19	15		
Hamilton	53 (48)	49 (44)	46	43	40	37	35 (34)	28	23	19	4	
Newcastle Int.	57 (52)	53 (48)	50	47	44	41	39 (38)	32	27	23	8	4

Figure 11 Estimated journey times (in minutes) between stations on the Train to Cessnock. Figures without parentheses assume all stops Bellbird to Maitland. Figures in parentheses are for express services.

Journey times shown Figure 11 have been developed based on the current track alignment, which should permit a typical maximum speed of 75kph to 90kph between Maitland and Bellbird, assuming the track is suitably upgraded. **A journey times between Cessnock and Newcastle of less than 1 hour appears completely viable.** An express train, as described above, may be able to travel Cessnock to Newcastle in under 50 minutes. This would allow the train to provide a credible alternative to car (50 minutes on a good day). Journey time may be further reduced by works to upgrade the track speed between Maitland station and East Greta Junction.



## 6. The Users

Car travel has been the main focus of the region's transport system for the past 75 years, resulting in a sprawling development pattern (and) a low public transport use. Passenger rail services that used to stop at Aberdare Junction, Bee Siding, North Kurri Kurri, Weston, Abermain, Neath, Caledonia and Cessnock were ceased circa 1970; arguably because of the lack of passenger demand, as car travel was more convenient and quicker than rail.

CESSNOCK CITY COUNCIL – Cessnock LGA Traffic and Transport Strategy 2018, p31

### So who will use the Train to Cessnock?



Hi I'm Gayle. I am so fed up with the Cessnock Road car park every morning, and even if they do fix that then the road from the end of the expressway through Jesmond is equally bad. I work in the Newcastle CBD and the train from Cessnock will be wonderful. No traffic or parking worries, and only a short walk from Newcastle interchange to my work, or I could catch the light rail. It's an hour of me time every morning, and a much better way to start my day.

Hi, I'm Ali. I'm the first person in my family to go to university - Mum and Dad are so proud of me. But I can't afford to live on campus and I've got no car, so at the moment I'm stuck with busses. There's not many of them, they take forever to get there, and if I have a late class there's no late bus. If I can't find a solution I may have to drop out. From where we live in Aberdare it would be a short walk to the train, and that would give me all the flexibility I need.



Hey, it's Olivia here. I got accepted into Merewether High School, which is a great opportunity for me. However, my only option to get there is a bus that leaves from the main road here at Abermain and will take about 1.5 hours (it goes all over the place). I leave home at 7am and don't get back until 5pm. I've heard that in years 11 and 12 they sometimes do early classes, starting at 8. I'm not sure how I'll manage that.

Hi, I'm Rob. I had a job in Newcastle and I drove to work but my car was a bit unreliable. Last year my car broke down. With no other options to get there, I lost my job and have had trouble finding a new one. With no job, I can't fix my car. With no car, I can't get a job. It's a downward spiral. The train would have given me options. If the train was running, I wouldn't be in this situation today.



G'day, I'm Max. I live in Weston and am retired. I don't really like driving any more, and the train will be a great way for me to get around. I'll use it for day trips to Maitland and Newcastle, and I can visit my daughter who lives in Thornton. I can also take the train to Sydney for a night out with my wife Barb, or to see a show. But what I'm really looking forward to is SteamFest, and having some steam trains using the line again. It takes me back. I'll certainly be on that train.

Hi, I'm Sarah. I'm a single mum with two kids, and I'm also confined to a wheelchair. I really have no options for getting around now and I'm always imposing on my friends or using taxis -which are often not available. Buses are useless for me. The train will be a lifeline and will mean I can get out with my kids. As they get older the train will mean the kids can go places and look after themselves, and I can rest easy because they will be safe.



Hey, I'm Aidan. Me and my mates like to go surfing and hang out at the beach, and the train will be awesome. We can jump on in Kurri, then take the light rail all the way to Newcastle Beach. Getting to Kurri station is easy as we can take our bikes or a scooter and store them there for the day. No need to bother Mum or Dad.

**Note:** All user stories have been developed based on the real lives of people living near the rail corridor.



# 7. Cost and Time to Deliver

## A relatively small investment for a vital piece of infrastructure

Preliminary cost estimates for establishing the Train to Cessnock have been developed with reference to the most recent (2020) Depreciated Optimised Replacement Cost (DORC) valuation of the ARTC interstate network, developed by consulting firm GHD for the Australian Competition and Consumer Commission. Additional information on the DORC valuation and its application to the Train to Cessnock are including in the “Acknowledgements, References and Credits” section of this report.

Based on the data provided in the GHD report, and the concept design developed for the Train to Cessnock, it is estimated that the Maitland to Cessnock corridor could be upgraded suitable for passenger operation for less than \$100 million – including track, formation, structures, signalling and level crossings.

By way of comparison, the rail corridor from Parkes to Narromine was recently upgraded as part of Inland Rail. This project included complete renewal of 98.4km of existing track (new track, formation, structures, signalling and level crossings and fencing), plus 5.3km of new track, for a total cost of \$344 million. This project was more than three times the size of the Train to Cessnock (28km), validating the cost estimate developed for corridor upgrade.

Not included in the above are several other essential components of the project to establish the Train to Cessnock, including:

- Acquisition of the corridor. An agreement is required on corridor acquisition, or other agreement to permit operation of trains, with current owners Aurizon and Yancoal.
- Modifications at East Greta and interface with the ARTC network. The arrangements and scope of work will need to be resolved with stakeholders.
- Establishment of stations and facilities, including the stabling yard.
- Costs to refurbish rolling stock.
- Business Case and EIS.

Allowing for these additional items, work to date indicates that the Train to Cessnock could be established and operating for a **total expenditure between \$100 and \$200 million**. Although this might seem a lot of money to an average person, it is a very small amount when compared to other rail projects in Australia - particularly when considering the need and value provided – discussed further in Section 8.

There are also numerous ways to optimise the project costs, including re-use of rail that has been removed from service on heavier lines (e.g. the Hunter Valley coal corridors) yet is perfectly serviceable for a light duty line carrying passenger trains only.

## Trains could be operating in only a few years

With timely approval of funding, trains could be operating between Maitland and Cessnock in 2028.

	2024				2025				2026				2027				2028			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
<b>Initial funding (2024 NSW State Budget)</b>		◆																		
Business Case / Scoping / Design																				
<b>Full funding (2025 NSW State Budget)</b>							◆													
Procurement																				
Corridor upgrade works																				
Signalling and level crossings																				
Station and facilities construction																				
Rolling stock refurbishment																				
Driver recruitment and training																				
Operational testing																				
<b>Services commence</b>																				◆

Figure 12 Indicative schedule to operation of the Train to Cessnock



# 8. Why Not Cessnock?

## Maitland to Cessnock would serve more people than almost any comparable service

According to the 2021 Census data, some 48,922 people live in the suburbs and localities that cluster around the 8 stations proposed for the Train to Cessnock. Many of these areas, including Gillieston Heights and Bellbird, are rapidly growing.

This population is **greater than** the population along any other area around Greater Sydney / Newcastle and adjacent to the electrified rail network, where diesel passenger trains already operate, with the single exception of Macarthur – Moss Vale. The population along the Cessnock corridor also exceeds the population along the corridor to Maitland itself, when excluding the suburban areas of Newcastle.

Corridor	Total population along corridor	Has a rail service?
Telarah - Dungog	3,969	✓
Maitland - Scone	41,614	✓
Sandgate - Maitland	45,410	✓
Kiama - Bomaderry (Nowra)	40,846	✓
Lithgow - Bathurst	36,393	✓
Macarthur - Moss Vale	52,169	✓
Moss Vale - Goulburn	31,171	✓
<b>Maitland - Cessnock (Bellbird)</b>	<b>48,922</b>	<b>✗</b>

Figure 13 Comparison of the population served by the Train to Cessnock with those served by similar rail corridors.

## The Train to Cessnock is the best value rail project in Australia – by some distance

When compared to other rail projects underway in NSW and Australia, the Train to Cessnock represents incredibly good value.

Consider this:

- A typical suburban station that is built as part of Metro West in Sydney will cost between \$350M and \$750M. This is excluding the cost of the corridor itself, and excluding the cost of trains.
- Each station typically has a population between 10,000 and 20,000 in its catchment area.<sup>1</sup>

That equates to between **\$17,500 and \$75,000 per person** to provide a rail service – for the station only!

Or how about this: The South West Rail Link in Sydney (Glenfield to Leppington) was completed in 2015 at a cost of \$1.8Bn. This line was to service the burgeoning southwest growth area of Sydney. But even now, some 8 years after the project was completed, the total population in suburbs along the corridor is around 31,000. That equates to **\$58,000 per person**.

Or this: Parramatta Light Rail Stage 1 is converting the old Carlingford rail corridor to light rail, and extending services to Parramatta and Westmead, at a cost of \$2.875Bn. Estimates are that, by 2026, 130,000 residents will be living within walking distance of the 14 stops, giving **\$22,000 per person** – even allowing for future forecast population growth and noting that many of these same residents already have multiple transport options.

The Train to Cessnock would equate to **between \$2,000 and \$4,000 per person** to provide a rail service. What a bargain!

**If these other projects are worthy of funding, then the Train to Cessnock is a no brainer.**

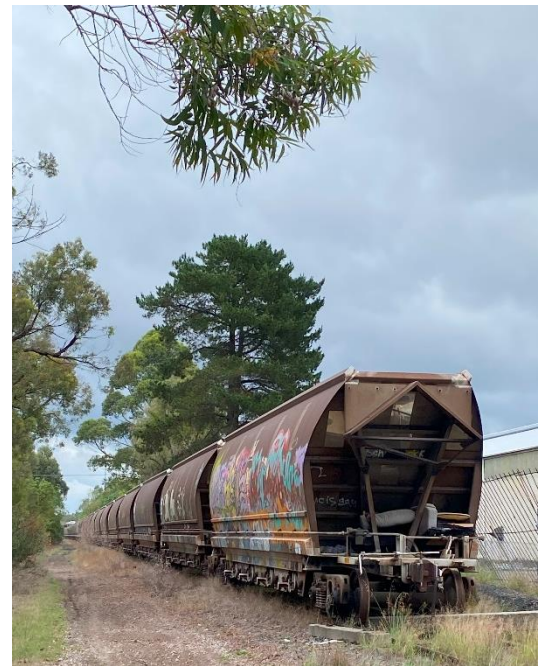


Figure 14 The corridor is currently used for storage of disused wagons, which is a tragic waste of what could be a valuable community asset.

<sup>1</sup> For example, the population of Five Dock (where a Metro West station is being built) is 9823. Even adding the adjacent suburbs of Canada Bay, Rodd Point, Russell Lea and Wareemba gives a total population of only 18,950.



# 9. The Benefits

## What would be the benefits of the Train to Cessnock?

By meeting the immediate needs of the community for a viable public transport option, the Train to Cessnock would provide similar types of benefits as any other rail project in Australia – just for a fraction of the price.

Key benefits include:

- Providing a public transport option to communities that currently have none.
- Reduced travel times and greater convenience for those reliant on current bus services.
- Equity and accessibility for less mobile members of the community.
- Reduce traffic congestion on the region's roads.
- Improved road safety.
- Improved sustainability and reduced greenhouse gas emissions: supporting NSW and Australia to move to net zero.

In addition to these benefits, the Train to Cessnock will help to address other key issues for the local community, many of which are also critical issues for NSW as a whole:

- **Providing education and employment opportunities to people along the corridor.** The rail line would provide commutable access to Newcastle and Maitland CBDs, Newcastle University and potentially Kurri Kurri TAFE (see Enhancements below). This means that people without reliable transport, or in families without the means to support multiple cars, could use the rail line for easy and convenient access. Many people in these communities are from a low SES demographic, and the opportunities provided by reliable public transport could be life changing.
- **Providing access to affordable housing.** There is a critical shortage of housing, and in particular affordable housing, across NSW. However, a rail service between Maitland and Cessnock would enable the housing in the established communities along the corridor (e.g. Weston, Abermain, Neath and Aberdare) to become a more viable option for many, as it would make it possible to live in these communities without the need for multiple cars. At present, all these communities are car-dependant and will continue to be unless the Train to Cessnock happens.
- **Supporting housing development.** Gillieston Heights, Abermain and Bellbird are just some of the localities in this area where there is already rapid housing development (not to mention other rapidly growing Hunter Valley localities off this corridor, such as Lochinvar and Huntlee). The Train to Cessnock would support these developments plus also enable new development areas or higher density development (e.g. townhouses) at virtually every station along the corridor. The NSW Government is currently considering spending billions to acquire the Rosehill Racecourse, construct a Metro station and develop housing on the site. The Train to Cessnock would provide similar outcomes for a fraction of the price.
- **Encourage community development for needy communities.** There is substantial experience worldwide of the impact of a good public transport option on the townships along the corridor in providing a focus for business centres, community facilities and the like. The Train to Cessnock would provide this catalyst for many communities.



Figure 15 Housing development works underway at Gillieston Heights, December 2023. This photo was taken near the potential station site; the rail line is on the right.

# 10. Future Enhancements

Stage 1 of the Train to Cessnock focusses on restoring rail services as quickly as possible, and with least expense. This means that the communities along the corridor gain rapid benefit.

Several potential enhancements have been identified, for consideration as Stage 2 or later.

## New alignment and additional stations in Cessnock

The Stage 1 alignment skirts Cessnock and provides limited services to many people. A new alignment could be considered, restoring Cessnock station to its original location in Railway Street, then crossing Vincent Street and proceeding through the currently disused land (former mining land) past West Cessnock to rejoin the Stage 1 corridor east of Bellbird. New stations would also be provided at Aberdare and West Cessnock.

This option would provide much better access to the train to communities throughout Cessnock, with substantial areas brought to within 1km (i.e. walking distance) of a station. A key issue is addressing the potential of mine subsidence, and ensuring appropriate engineering controls are in place to eliminate any risks. Some land acquisition would also be required to secure the corridor through Railway Street and across Vincent Street.

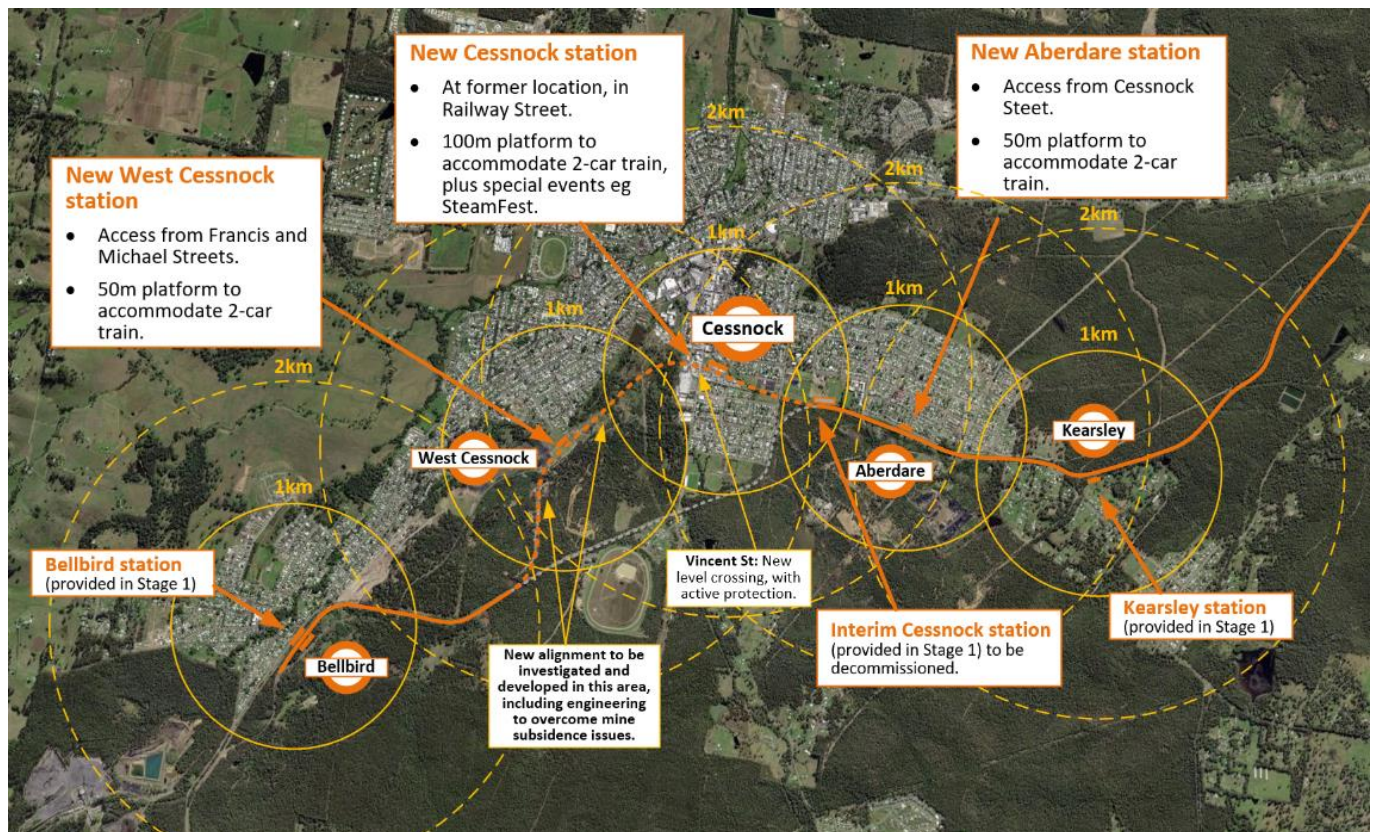


Figure 16 Potential Stage 2 alignment through Cessnock.

## New station at Loxford

A new station at Loxford, between Gillieston Heights and Kurri Kurri, could be constructed as a future stage. This station would provide rail-based transport to Kurri Kurri TAFE, enhancing opportunities to study for people along the corridor. There would be the opportunity to provide access to the existing housing areas of Cliftleigh and Heddon Greta and it would also serve any future housing and industrial developments in the area, including on the site of the former Hydro Aluminium Smelter (already approved for industrial and housing development).



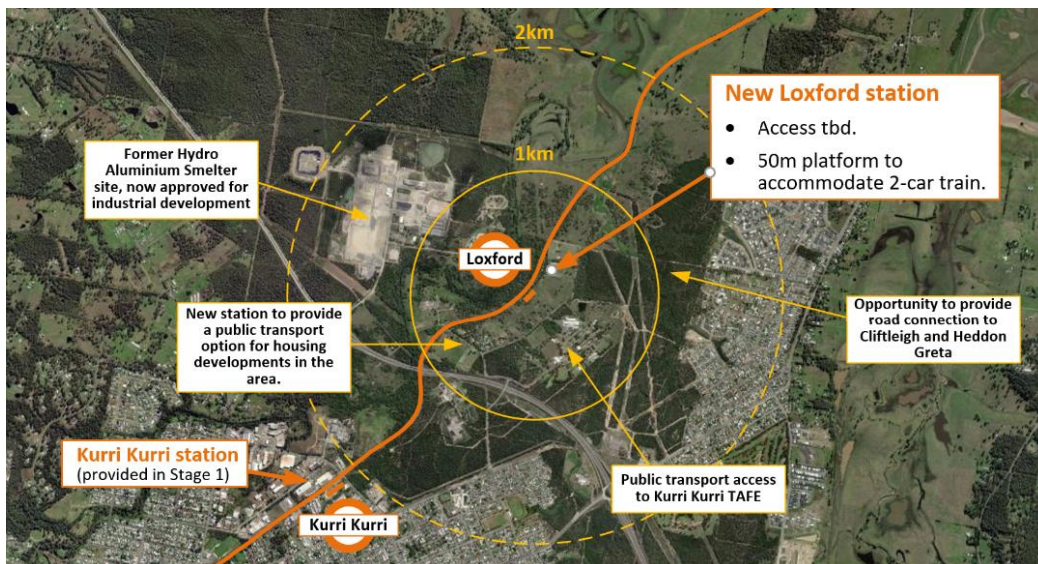


Figure 17 Potential future station site at Loxford, to serve Kuri Kurri TAFE, Clifleigh and Heddon Greta, and new industrial and housing developments.

### Corridor duplication

Whilst a single-track corridor will be adequate to support the initial hourly service proposed – and makes immediate use of the existing infrastructure – a double track corridor would ultimately be preferred to allow for service increases and greater flexibility in timetabling.

The corridor previously was double track, meaning that the land reservation and much of the earthworks will already support this augmentation. (Note – if the new alignment through Cessnock was developed as described above, it would be appropriate for this to be constructed as double track.)

### Opportunities for freight and industrial development

Revitalising the Maitland to Cessnock Railway corridor can also assist in industrial development along the corridor, and providing facilities for industrial connections and freight train movements is another longer-term enhancement that will increase the value to the corridor to the community and to the NSW economy.



Figure 18 Rail corridor looking north from Kiah Road towards Maitland. The former location of the second track is evident.

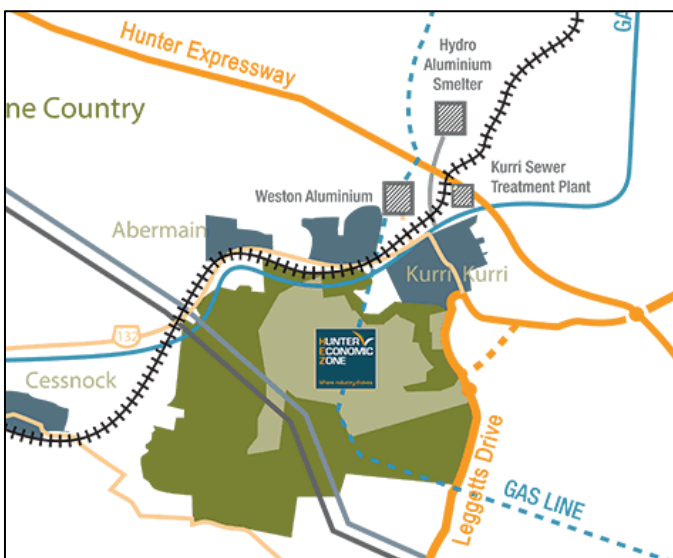


Figure 19 Extract from Hunter Economic Zone (HEZ) Regional Infrastructure Plan, showing the proximity and significance of the Maitland to Cessnock Railway to the development.

The Hunter Economic Zone (HEZ) notes on its website that “National rail lines adjoin HEZ with excess container capacity to Newcastle, Port Botany and Western Sydney, plus an easement for a rail spur into the site available. The rail line links to the Main North Line, which in turn connects to Newcastle, Sydney and interstate.”

Acquisition of the corridor by the NSW Government, followed by refurbishment and active use, will remove one of the barriers to the use of the corridor to support development in the HEZ, the former Hydro smelter site and elsewhere, contributing to the NSW Government’s goals of local industry, manufacturing and job creation.

# Acknowledgements, References and Credits

This document has been prepared by Bill Palazzi of **palazzirail** in support of the Train to Cessnock.

**palazzirail**  
consulting, management, design

Bill Palazzi has over 35 years' experience working in the rail industry in Australia and internationally. Bill's work covers multidisciplinary rail engineering, rail operations and analysis, signalling and systems, strategy, and business case preparation. Bill has led significant projects such as the 2010 Melbourne to Brisbane Inland Rail Alignment Study, the Port of Brisbane Corridor Study in 2012 and the strategy and business case for upgrading the signalling throughout the Sydney Trains network to modern, digital technology.

Bill lives in the Cessnock area so has direct experience with the issues facing the community. However, neither palazzirail nor its directors have any commercial or financial interests in the Train to Cessnock.

## Document references

Page	Reference:
3, 11	The 2018 Cessnock LGA Traffic and Transport Strategy can be accessed at <a href="https://www.cessnock.nsw.gov.au/Council/Forms-and-documents/Plans-and-strategies/Cessnock-LGA-Traffic-and-Transport-Strategy">https://www.cessnock.nsw.gov.au/Council/Forms-and-documents/Plans-and-strategies/Cessnock-LGA-Traffic-and-Transport-Strategy</a> . The draft 2023 Cessnock LGA Traffic and Transport Strategy can be accessed at <a href="https://together.cessnock.nsw.gov.au/cessnock-tats">https://together.cessnock.nsw.gov.au/cessnock-tats</a> .
4	For more information on the history of the South Maitland Railway, see <a href="https://en.wikipedia.org/wiki/South_Maitland_Railway">https://en.wikipedia.org/wiki/South_Maitland_Railway</a> or <a href="http://www.maitlandrailmuseum.com/">http://www.maitlandrailmuseum.com/</a> . Transport for NSW's Hunter Regional Transport Plan can be accessed at <a href="https://www.future.transport.nsw.gov.au/sites/default/files/2022-09/lower_hunter_electorate_initiatives.pdf">https://www.future.transport.nsw.gov.au/sites/default/files/2022-09/lower_hunter_electorate_initiatives.pdf</a> . Also see the December 4 article in the Newcastle Herald regarding the forecast "population boom" in Cessnock - <a href="https://www.newcastleherald.com.au/story/8440181/cessnock-population-boom/">https://www.newcastleherald.com.au/story/8440181/cessnock-population-boom/</a> .
5, 6, 7, 8	Base maps for the diagrams on pages 5, 6, 7 and 8, plus pages 15 and 16, sourced from the NSW Government Spatial Collaboration Portal <a href="https://portal.spatial.nsw.gov.au/portal/apps/sites/#/homepage">https://portal.spatial.nsw.gov.au/portal/apps/sites/#/homepage</a> .
10	The 1966 rail timetable, plus other timetables related to trains operating on the South Maitland Railway, can be accessed at Under the Clocks, <a href="https://undertheclocksblog.wordpress.com/old-timetables/">https://undertheclocksblog.wordpress.com/old-timetables/</a> .
12	Refer to next page for a discussion on the development of the project scope and cost estimate.
13	All population data on page 12 (and on pages 4, 5 and 6) is from the 2021 Australian Census, which can be accessed at <a href="https://www.abs.gov.au/census/find-census-data/quickstats/2021/AUS/">https://www.abs.gov.au/census/find-census-data/quickstats/2021/AUS/</a> . Metro West station costs from <a href="https://www.smh.com.au/national/nsw/sydney-s-flagship-harbour-metro-rail-line-billions-over-budget-20220301-p5a0jw.html">https://www.smh.com.au/national/nsw/sydney-s-flagship-harbour-metro-rail-line-billions-over-budget-20220301-p5a0jw.html</a> . South West Rail Link costs from <a href="https://www.railway-technology.com/projects/south-west-rail/">https://www.railway-technology.com/projects/south-west-rail/</a> . Parramatta Light Rail details from <a href="https://www.parramattalightrail.nsw.gov.au/">https://www.parramattalightrail.nsw.gov.au/</a> , also see <a href="https://www.smh.com.au/national/nsw/parramatta-light-rail-extension-to-olympic-park-to-cost-3-9-billion-20230913-p5e491.html?btis=">https://www.smh.com.au/national/nsw/parramatta-light-rail-extension-to-olympic-park-to-cost-3-9-billion-20230913-p5e491.html?btis=</a> for details of the even more expensive Parramatta Light Rail Stage 2, currently in planning. Also compare the Yanchep Rail Extension project in Perth, which is extending the existing Butler line further northwards, to Alkimos, Eglinton and Yanchep, at a cost of \$531.7 million. The total population of this area is 25,374, giving \$21,000 per person.
16	Details of the Hunter Economic Zone (HEZ) from <a href="https://hez.com.au/">https://hez.com.au/</a> . The HEZ Regional Infrastructure Plan is available at <a href="https://hez.com.au/infrastructure/">https://hez.com.au/infrastructure/</a> .

## Photo and diagram credits

Figure 1 diagram recreated from the 2018 Cessnock LGA Traffic and Transport Strategy.

Figure 2 photo by Eugene Koen, permission requested.

Figure 3 SMR map by Rolfe Bozier, used with permission.

Figure 9 photo by Dave from trainairtram.com, permission requested.

Figure 19 diagram extract from HEZ Regional Infrastructure Plan, <https://hez.com.au/infrastructure/>.

All other photos and diagrams by palazzirail.



## Development of the project cost estimate

As noted above, preliminary cost estimates for establishing the Train to Cessnock have been developed with reference to the most recent (2020) Depreciated Optimised Replacement Cost (DORC) valuation of the ARTC interstate network, developed by consulting firm GHD for the Australian Competition and Consumer Commission. The report is available at

<https://www.accc.gov.au/system/files/GHD%20Advisory%20-%20Concluding%20Public%20Report%20-%20ARTC%20Interstate%20Network%20DORC%20Valuation.pdf>

The GHD report outlines the DORC approach as follows:

*The DORC approach is an asset valuation method that determines the current cost required to replace [...] an existing asset. ... Our DORC valuation is based on ARTC's information, evidence from recent construction contracts, our inhouse database of rail sector projects and public domain information, where possible.*

*[Modern Equivalent Assets] are selected to deliver the same service standard as existing assets (as of the valuation date) and are designed and constructed using the modern methods and materials and use proven technology as of the valuation date.*

*The Replacement Cost is then the minimum that it would cost, in the normal course of business, to replace the existing asset with a technologically modern equivalent new asset with the same service potential.*

For the Train to Cessnock estimate, the Replacement Cost was used, without considering the subsequent steps in the DORC process, namely allowing for asset optimisation and depreciation.

Costs elements obtained from the GHD report have been validated against a variety of other sources including reported outturn costs for various rail projects, palazzirail internal data including prior cost models developed for other projects, and consultation with industry experts.

A concept design has been developed for the Train to Cessnock, to provide a basis for estimation. The concept design is provided as an Appendix to this document and the details are reflected in the corridor outline provided on pages 6, 7 and 8 and elsewhere in this document. The design represents a range of assumptions underpinning the development of the cost estimate, which will need to be confirmed in formal project scoping and costing. Initial operational modelling and timetabling work has also been undertaken.

As far as possible, allowances and assumptions have been validated with experts knowledgeable about the existing status of the rail corridor.

The comparison with the Parkes to Narromine (P2N) Inland Rail project is valuable. The following is taken from the website of the constructor, Fulton Hogan (<https://www.fultonhogan.com/keyprojects/inland-rail-section-5-parkes-to-narromine-p2n/>):

*P2N included upgrading 98.4km of existing rail track and construction of 5.3km of new rail near Parkes.*

*The majority of P2N works was in a brownfield environment and involved the upgrade of all existing corridor infrastructure, including demolition / removal of all level crossings, culverts and drainage structures, track sleepers and ballast, formation, level crossings and signalling infrastructure, replacement and upgrade of all public and private level crossings, construction of new formation, installation of new ballast, concrete sleepers and 60kg rail, three new crossing loops within the existing rail corridor, upgrade of existing sidings, installation and commissioning of new signalling infrastructure, signage, fencing, landscaping and RMAR.*

The scope of brownfield renewal (the 98.4km of track from Parkes to Narromine) was effectively a total renewal of all infrastructure – the worst case for the Train to Cessnock. Simply pro-rating the \$344 million cost for P2N (98.4km brownfield plus 5.3km greenfield) vs the 28km of the Train to Cessnock, gives a value of less than \$100M for the corridor upgrade.

# Appendix

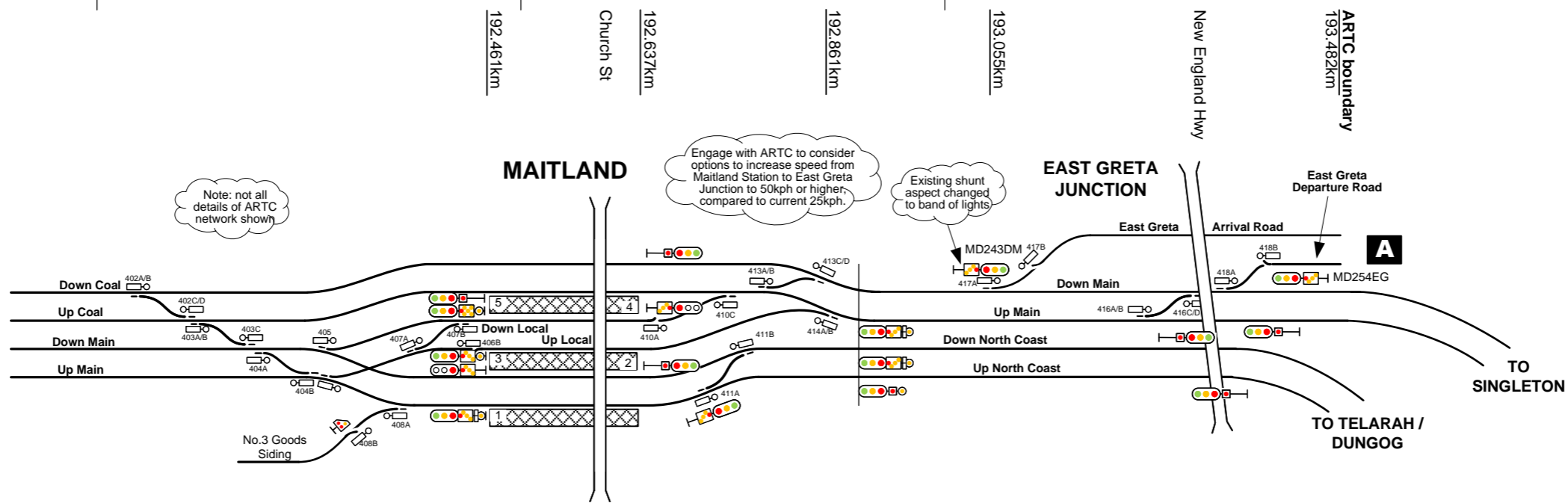
# Concept Design



# CONCEPT ONLY: TO BE AGREED WITH STAKEHOLDERS

ARTC Network

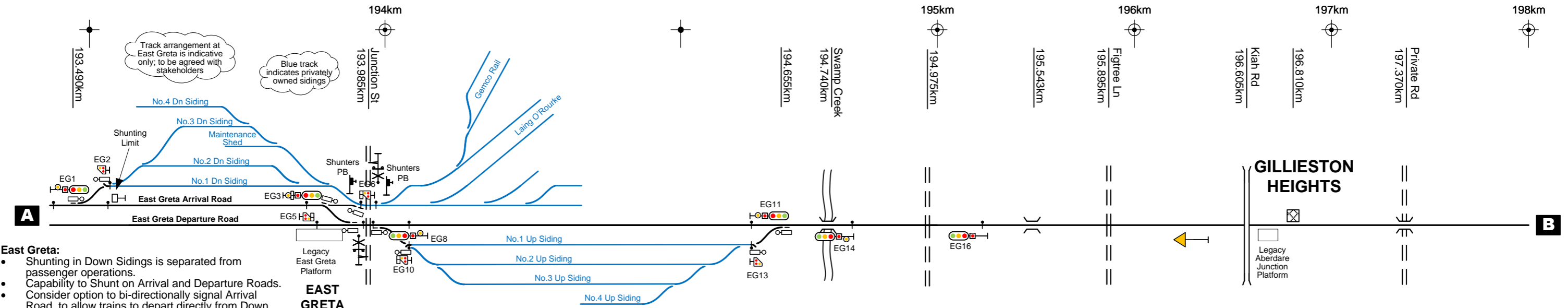
TO NEWCASTLE



ARTC Network

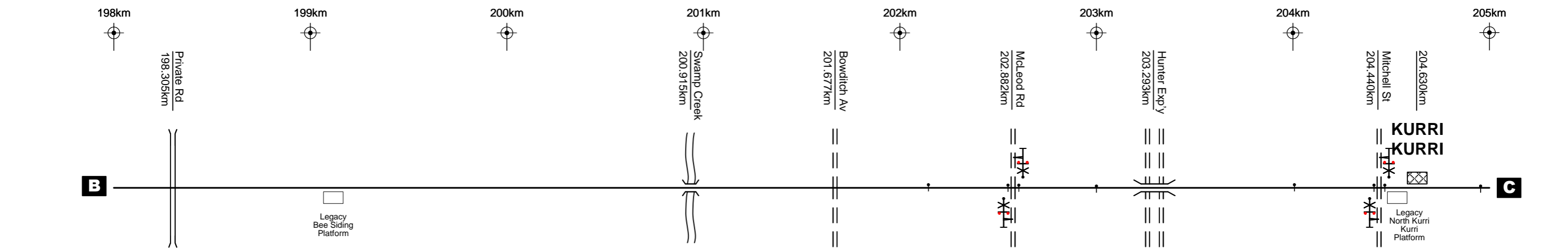
TO SINGLETON

TO TELARAH / DUNGOG



- East Greta:**
- Shunting in Down Sidings is separated from passenger operations.
  - Capability to Shunt on Arrival and Departure Roads.
  - Consider option to bi-directionally signal Arrival Road, to allow trains to depart directly from Down Sidings towards Maitland.
  - Trains can shunt beyond the Up Siding whilst a train is in the section to Weston

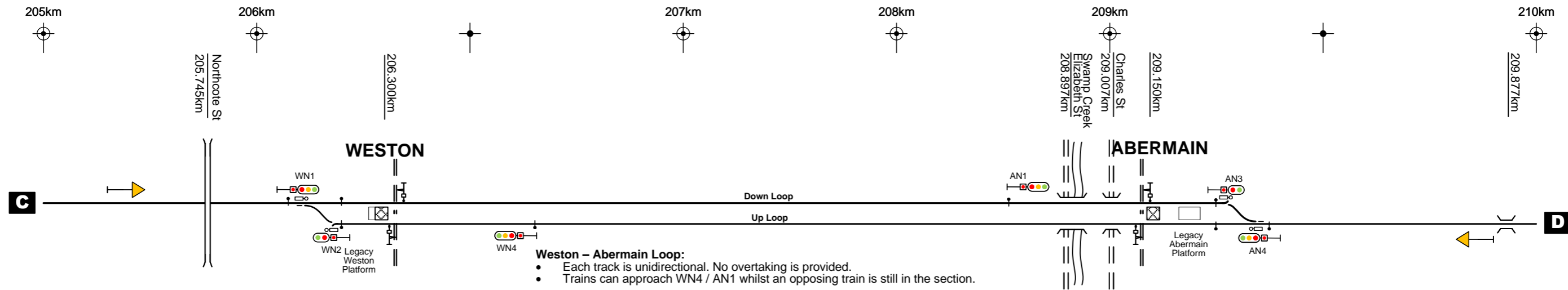
**EAST GRETA**



# CONCEPT ONLY: TO BE AGREED WITH STAKEHOLDERS

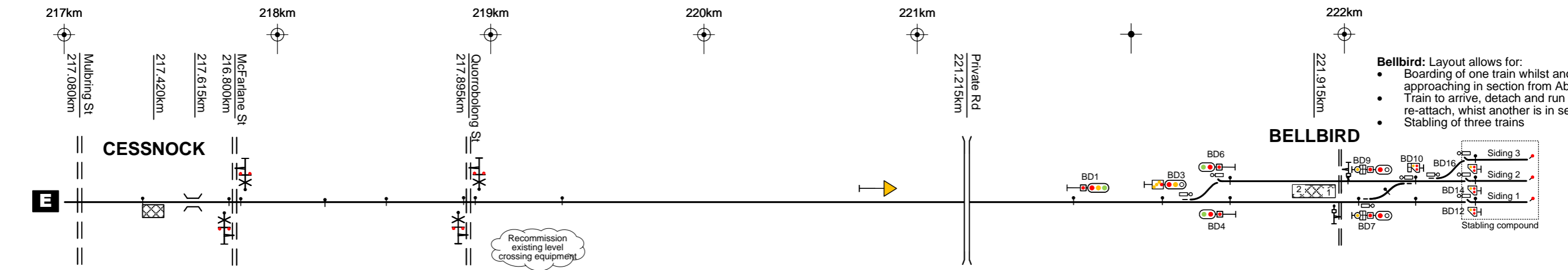
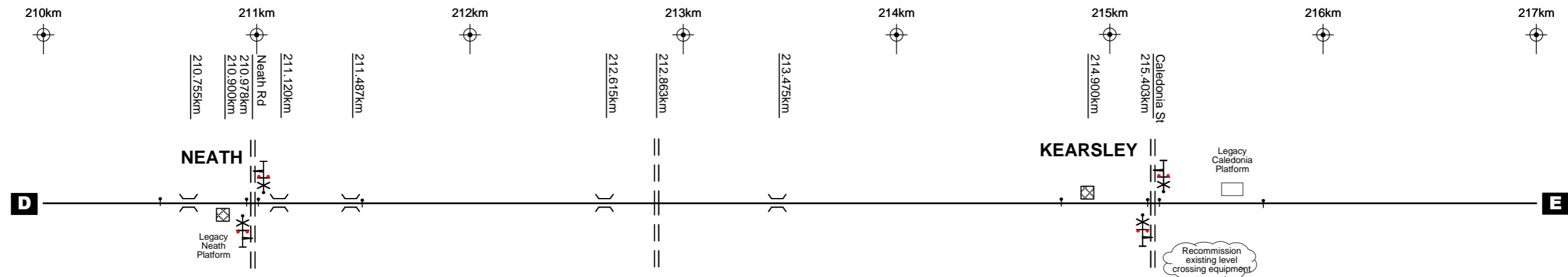
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**Weston – Abermain Loop:**

- Each track is unidirectional. No overtaking is provided.
- Trains can approach WN4 / AN1 whilst an opposing train is still in the section.



**Bellbird:** Layout allows for:

- Boarding of one train whilst another is approaching in section from Abermain.
- Train to arrive, detach and run around to re-attach, whilst another is in section.
- Stabling of three trains

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REV	DATE	DESCRIPTION	DWN	APPD				<b>TRAIN TO CESSNOCK</b> <b>KP205 – BELLBIRD</b>	<b>2 of 2</b>