The Minerva Plan

a rail strategy for Southeast Queensland

Foreword

The history of rail in Australia is dotted with pivotal moments which have had far-reaching implications. From Bradfield's vision and predominant realisation of his railway scheme for Sydney which has served our biggest city for nearly a century, to the pre-Federation break of gauge debacle which took almost one hundred years to resolve, the long term implications – both good and bad – of railway planning decisions are clear to see. In 2020, Queensland is facing its own pivotal moment with the design of the Cross River Rail project. Cross River Rail has been approved, had contracts signed, and early works have commenced to deliver the second river crossing in Brisbane's CBD by 2024.

However, rather than relieve the current capacity bottleneck and form the backbone of a transformation of the rail network as it was long intended and currently promoted as delivering, Cross River Rail in its current iteration will itself become the bottleneck and prevent almost all future expansion of the Southeast Queensland rail network.

Southeast Queensland has been without a detailed rail strategy since the Connecting SEQ 2031 regional transport plan was dis-endorsed. It is in this absence of a rail strategy that Cross River Rail has been allowed to come to its current form, with no guiding framework with which to measure its suitability in the long term.

Major inner-city rail infrastructure has a lifespan extending beyond a century, with the potential to increase the efficiency and liveability of a city, and it is important that the project is designed to deliver on these objectives. Unfortunately, Cross River Rail is not fit for purpose.

Fortunately, through minor changes to the project, it will be possible to increase capacity in both the short and long-term, allowing Cross River Rail to play the role in enhancing the network for which it was always intended.

This document will present the case of change, demonstrating in detail how the current design for Cross River Rail is flawed, and how it can be modified to meet its target criteria more effectively while improving cost efficiency.

Further, the lack of a rail strategy in Southeast Queensland will be addressed, describing the envisioned development of the network over the coming decades – with a modified Cross River Rail at its core.

This document is the Minerva Plan, a rail strategy for Southeast Queensland. The Minerva Plan will revisit previous works, including Connecting SEQ 2031, to present a rail strategy that is 'familiar, yet different', and for which considerable investigation has already been undertaken.

This plan will set out the logical sequencing of projects to enhance the capacity and functionality of the rail network into four distinct phases, without being prescriptive about specific years. In this way, the development of the rail network will be able to correspond to patronage growth and economic conditions.

The Minerva Plan is not sanctioned by government; however, we welcome and encourage government to adopt the recommendations listed here.

Minerva Transport Planning Company Limited, June 2020

Caveats and assumptions

All information used in the development of the Minerva Plan is publicly available and referenced throughout. In most cases, information has been sought from the Queensland Department of State Development, Tourism and Innovation website through its hosting of track layouts and other information from the various Project Change applications, as well as from Queensland Rail and TransLink's websites including the Open Data portal.

While most of the analysis was conducted using the track arrangements depicted in Project Change 4, the outcomes and findings remain the same with the most recent Project Change 7 revisions from June 2020. Given the last decade has seen multiple variants and business cases developed for Cross River Rail, there is a large amount of detailed rail operational information which has been used as a basis for filling in missing information in the current proposal. On top of this, expert analysis has been conducted to determine the findings presented herein.

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Introduction

One of the most important things to understand is that this document is not arguing against a form of Cross River Rail. A significant increase in rail capacity between the north and south of the city is crucial to both cater for near-term patronage growth and to facilitate expansion of the rail network over time. However, the current design of Cross River Rail is fundamentally flawed, meaning it will not achieve its goals in terms of capacity enhancement, nor enable the development of the rail network in decades to come. As such, the early part of this plan describes the current Cross River Rail configuration, and how it will operate, to illustrate the shortcomings of the project. It is acknowledged that in order for the project to change, a strong justification must be given, and this document sets out that justification – this forms the first part of the Minerva Plan.

After this, an altered Cross River Rail plan is presented, describing the changes to the project and the levels of additional capacity it then would provide through enhanced operation. Building on this enhanced Cross River Rail, a series of additions and improvements to the network are presented to deliver a comprehensive rail strategy for Southeast Queensland – the Minerva Plan.

Traditionally rail strategies have specified exact years for when projects would become operational, yet these are almost never remotely accurate – by way of illustration, Cross River Rail was originally planned to commence operations in 2016. Furthermore, this document has no official status with government or funding bodies, so the idea of specifying introduction years for different projects would be doubly disingenuous. Rather, the Minerva Plan sets out to identify phases of work, noting that some projects are contingent on others and therefore follow a logical sequencing. These phases will contain the different projects that can be completed around the same time, to allow a vision of the network development future to be plotted out. The exact timing of the projects in many cases depends on a range of factors – demand exceeding capacity, political will, State finances – and given these factors are variously unreliable or fickle, the sequencing rather than timing of the projects here is the key focus.

There are a further range of projects that are not strictly necessary from a capacity perspective but would overall increase resilience or improve travel time outcomes for passengers. While some projects could conceivably be delivered at any time, this document will attempt to decipher which phase they are best suited to in order to maximise benefits. That being said, they will not strictly be bound to these phases, and are grouped simply to complete the strategic story.

As this is not an official document – it is not related to the Queensland Government in any way, and is not the subject of a commission to produce – there is an element of freedom granted to the form of the document that would otherwise not be present. To this end there are numerous ‘special features’ throughout the document. While the main body of the document is a straightforward, clinical assessment and recommendation of various rail plans, the special features take a different tone.

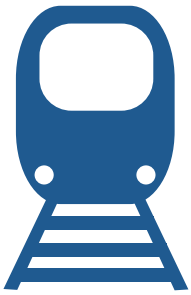
The first, denoted in green callouts, are ‘lessons’ – these present a short instruction on an aspect of rail planning, to further illustrate the rationale behind certain decisions. These are intended to make the plan accessible to the layperson without specialist knowledge.

The second, denoted in blue, are analogies, or similes, or metaphors – flights of thought generally to convey a different way of thinking about the problem at hand, and to make the reference material more relatable to everyday activities. These contain an element of the author’s personality, reflecting on their experiences in public transport.

The Minerva Plan is a rail strategy in the purest sense of the terminology. Many strategies these days, across many industries and topics, have taken “strategy” as an invitation to be light on, or devoid of, detail. These documents tend to rely on motherhood statements, which offer no clear direction on what will eventuate, and rarely have any accountability or metrics against which they can be measured. The Minerva Plan is a strategy which describes in detail how the network will develop, down to the track layouts, fleet requirements, and even passenger transfers at individual stations. It is intended to be such that any of the projects listed here could be taken to detailed design without intermediate steps, secure in the knowledge that each phase leads to the next and each decision is leading to a fully-formed future network.

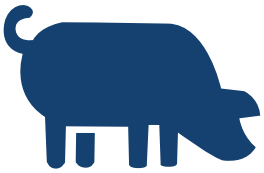
Finally, a caveat. All primary information in this document is sourced from publicly available information, which is referenced where applicable, and analysis is then performed using this information. In the case of Cross River Rail, the latest information available online does not have any operational details, nor an updated business case, but is largely limited to infrastructure plans. These have been used to determine the implied operations that this infrastructure would enable. Although there is a high level of confidence in the interpretation, there are no guarantees that the inferred operations are exactly correct, and/or Cross River Rail could change its planning afterwards. As such, the assessment of the existing operations should be taken as ‘likely outcomes’ rather than ‘fact’. Should any further information be released after publication of this document which materially changes the outcome, an updated version will be released if required. Regardless, the analysis and recommendations that follow, being based on own work, do not rely on the current operational plan for Cross River Rail and are therefore considered factual and independent.

Objectives of this stratergy



Better use of existing infrastructure

A clear pathway for future network development



Resolving the inherent problems in Cross River Rail

Providing greater connectivity through an improved network

Reduce emissions by making public transport more competitive

Accommodate and support growth in SEQ for decades to come

A brief introduction to the Brisbane network, and how it operates

To set the stage for what will be discussed in this document, it is important to understand the current network and how it operates for context.

The Brisbane network radiates out from a centre in Brisbane's CBD, reaching as far as the Gold Coast in the south, the Sunshine Coast in the north, and Rosewood in the west, with numerous smaller lines close to Brisbane. All trains on the network (with perhaps the exception of some remote shuttles or special services) operate through a core four track section between Roma Street and Bowen Hills stations through the Brisbane CBD.

The network has been 'sectorised' since the introduction of the 2011 timetable, where sectorisation effectively reduces the number of crossing conflicts by keep trains on a dedicated track pair through the CBD. The 'Mains' sector connects the North Coast line to the Ipswich and Springfield lines, while the 'Suburbans' sector connects the Ferny Grove, Airport, Doomben, and Shorncliffe lines in the north to the Cleveland and Gold Coast lines in the south. The network, in a simplified fashion, and its sectorisation is shown below in Figure 1.

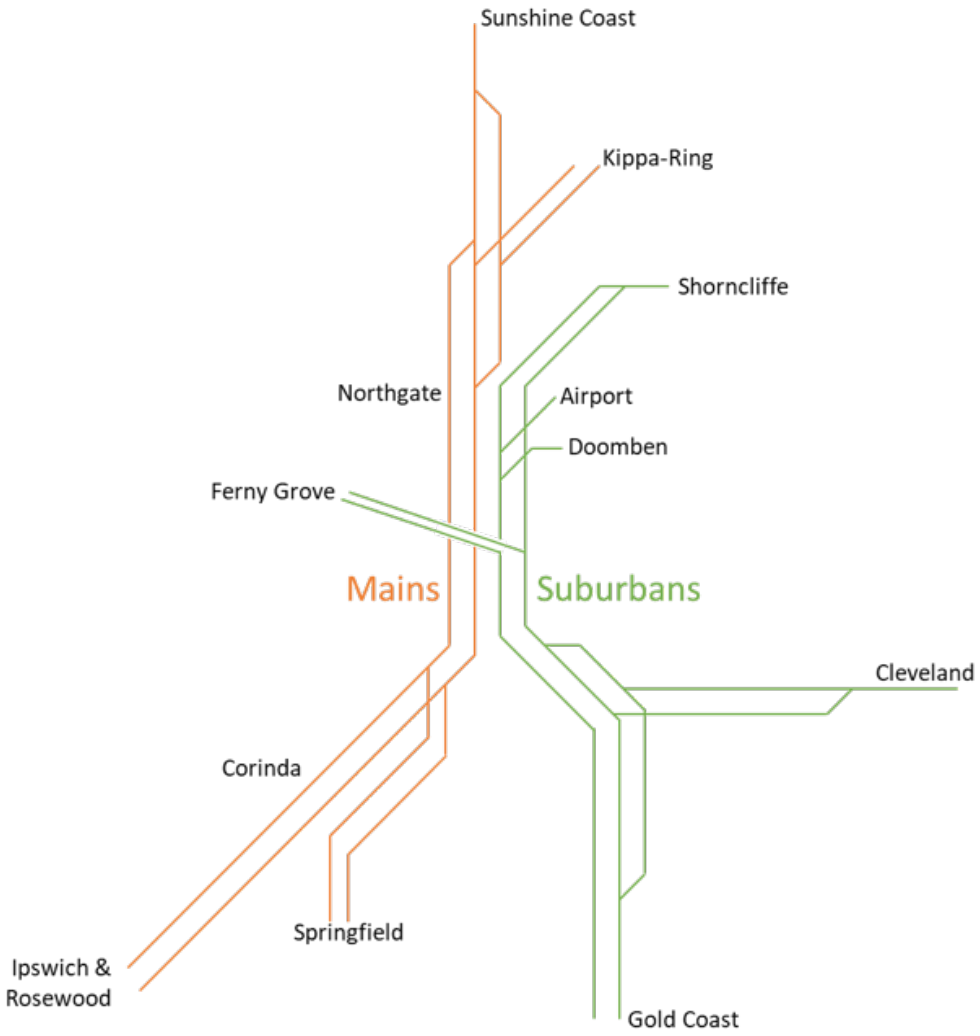


Figure 1: The current Brisbane network, and the sectorisation thereof.

Brisbane is slightly unusual in terms of its network structure through significant amounts of three-track sections – namely from Northgate to Petrie, and from Kuraby to Park Road. Whereas a lot of networks develop in pairs of tracks, allowing equal volumes to flow in each direction, Brisbane is very much a 'tidal flow' network. High volumes of trains come into the city in the morning, and leave in the afternoon, with many trains stabled at Mayne Yard (near Bowen Hills station) during the day. While odd when compared to global networks, it ends up being remarkably efficient in terms of in-service vehicles.

It is much the same as driving to the city for work, and parking at the office. The car is not needed during the day, and is in the right location when you are ready to return home. Stabling trains during the day at a location far from the city would be like having your car drop you at the office and then drive a long distance out of the city, only to drive back in to pick you up and then drive home – which also happens to be the default dystopian outcome for automated/driverless cars, increasing the number of peak periods from two to four per day.

Aside from any operational efficiencies, the three-track operation has some aspects that need considering, based on the fact that three-track section operate two tracks in the peak direction, and one in the contra-peak direction. Firstly, the three track corridors always merge into two tracks, meaning they allow for an efficient mix of express and all-stations running, but neither track is fully utilised – if the single inbound track after the merge can take 20tph, then this 20tph must be split between the two inbound tracks in the three-track section. Secondly, the ability to operate services of different stopping patterns in the contra-peak depends on the level of service.

At this point it is worthwhile considering the effect of homogeneity on capacity. Simply put, capacity on a track is maximised when services operate the same stopping pattern (homogenously), regardless of whether they are express or stopping services (with a minor exception that we will come to later). It is also possible to run a mix of different stopping patterns if the frequency is low enough. At some point, when running a mix of stopping patterns on one track the capacity is exhausted without change – namely, the express services must slow down. Ultimately, in a fully utilised track all services must operate at the speed of the slowest service. If, as an example, a section of track with capacity of 20tph has 1tph stopping service and 19tph express services, all services will run at the same speed as the stopping service. Whether they physically stop or not is irrelevant, the run times will remain the same.

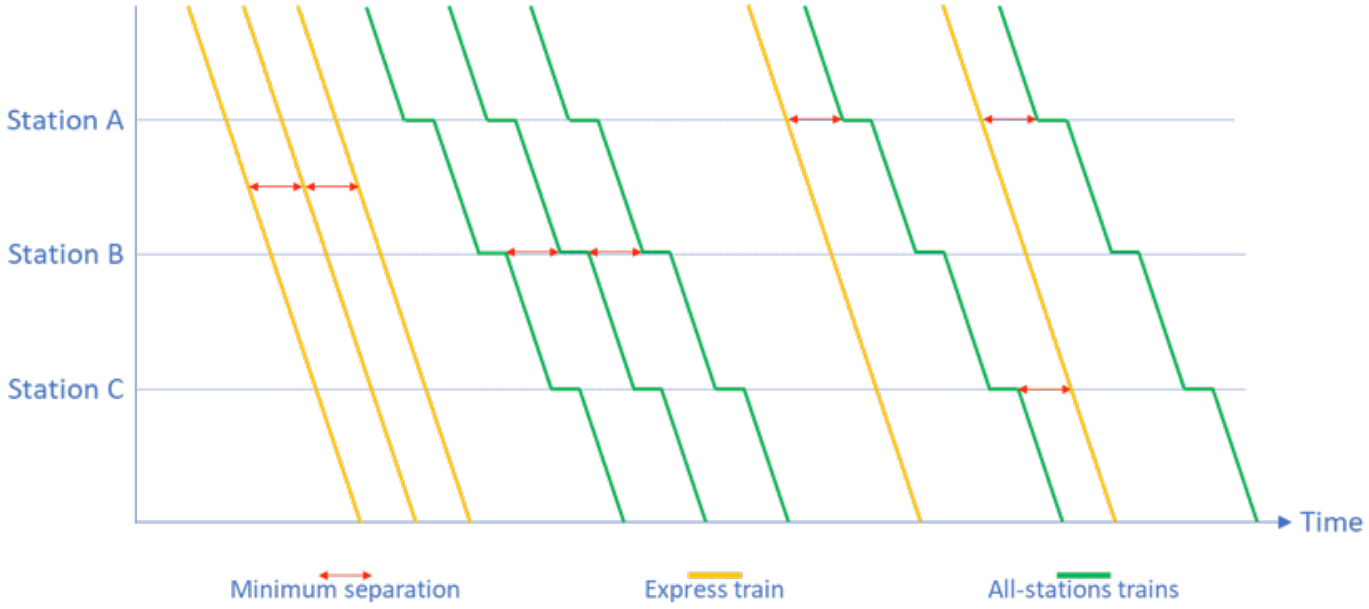


Figure 2: Keeping services separated at the minimum headway means that capacity is maximised when stopping patterns are homogenous. Mixing stopping patterns causes capacity to be wasted, and full utilisation requires all services to operate at the same speed.

The capacities of the Mains and the Suburbans are different, with 20tph in each direction possible on the Mains and 24tph possible on the Suburbans. This is because the Suburbans have dual platforms at both Central and Roma Street, whereby a single-track splits into two adjacent platforms. Given the very high dwell times at these stations – where most passengers alight in the morning and board in the evening – this allows trains on the Suburbans to occupy platforms concurrently, rather than waiting for them to be cleared as is the case on the Mains. In this sense, the Suburbans are currently the highest capacity of the two sectors, and the notional overall capacity through the CBD is 88tph.

Cross River Rail: as it stands

What the current version of Cross River Rail will do – understanding the operations

The most recent publicly available information is that published by the Coordinator-General through the "Project change application 4" process in May and June of 2019. Notably the information provided included details about the infrastructure – general arrangements and long sections covering the entire project area – but no detail on the proposed operation. Given the infrastructure changed in such a manner as to make the operations associated with the 2017 business case unworkable, the operations must also have changed. Without the operating plans, it is impossible to say with complete certainty what the project might be planning; it is, however, possible to evaluate the infrastructure to work out the most likely operations, which is what will be presented in this document.

The current (June 2019) alignment shows that the two westernmost tracks north of Breakfast Creek (the Mains) are diverted directly into Cross River Rail through Mayne[1]. Given that the 2017 business case operations showed a total of 28 trains per hour coming from north of Northgate[2], it is reasonable to assume that these would be routed through Cross River Rail. The alternative would be to intertwine the services from north of Northgate with those from the inner northern lines, which would require convoluted grade separations, and quite likely four tracks between Northgate and Petrie to separate train flows. Additionally, the notion of sending all the North Coast Line services through Cross River Rail is not new – it is exactly what was proposed in the first iteration[3].

In any event, given that all the literature suggests that 24tph is the maximum that can be operated through the tunnel, the service levels from north of Northgate must drop from 28tph in the business case to 24tph in the latest version.

Using similar deductive reasoning, it would appear that the Shorncliffe, Airport, and Doomben lines are merged across onto the existing inner-city Mains, leaving only the Ferny Grove line to operate on the inner-city Suburbans. While it is possible that these trains could be split between the two existing corridors – as per 2011 which had the Doomben services joining Ferny Grove – the track layouts do not reasonably allow for this operation. The inner-city Mains tracks are realigned around a new yard north of the existing Mayne Yard – a sensible outcome which allows access and egress from the yard without conflict – which would mean that anything travelling to the inner-city Suburbans would ultimately be running the wrong way along one of the tracks, and/or large amounts of crossing conflicts. As such, it is considered unlikely, and the split of services above is what will be assumed from here on in.

1 Request for Project Change 4. Volume 2: Design Drawings, May 2019, General arrangement sheets 23-25

2 Cross River Rail business case, August 2017, Chapter 6, page 140, Figure 6.11

3 Cross River Rail EIS, July 2011, Chapter 4, page 4-61, Figure 4-27

Given that 24tph will exit Cross River Rail at Dutton Park – if 24tph enter from the north, there is nowhere else for them to go – there will be 24tph running on the single outbound track until at least as far as the proposed Clapham Yard, where a large number of trains will be stabled. With 24tph on the outbound track, this precludes any services coming from Park Road heading to Dutton Park. This necessitates that services south of Dutton Park will exclusively use the Cross River Rail sector from the south of the city, as there is no residual capacity for any other services. This also means that the existing Suburbans sector through South Brisbane will only be used by the Cleveland line from the south.

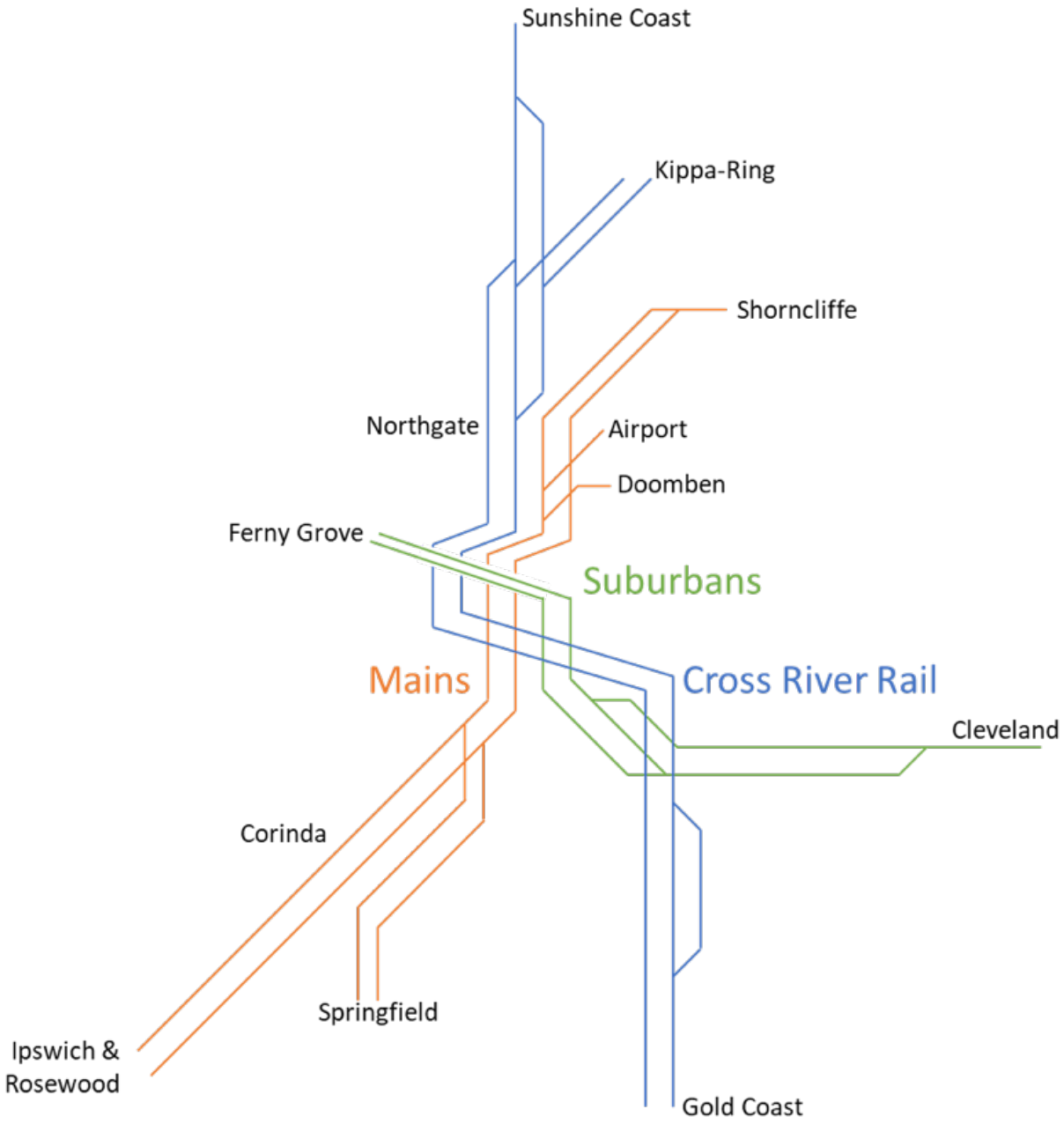


Figure 3: The implied sectorisation of the network with Cross River Rail as it is currently designed.

A misallocation of new capacity

Although it is sometimes easy to lose focus on why a project exists, in the case of Cross River Rail it has been well documented and unchanged for over a decade. Going back to the pre-feasibility Inner City Rail Capacity Study in 2008[4], through to the 2017 business case[5], the common theme has been the need to expand the capacity available to the north – specifically the Redcliffe Peninsula, Caboolture, and Sunshine Coast lines – and to the south – specifically the Gold Coast and Beenleigh lines.

As such, the expectation would be that Cross River Rail would provide a significant capacity increase for those lines. Indeed, the 2017 business case states that it will "2X the rail capacity across the Brisbane River and through the CBD from the south"[6] which is taken to mean "double" – given we know the Suburbans have a capacity of 24tph in each direction, this would mean Cross River Rail increases capacity by 48tph overall.

However, analysis of the operations shows this is not going to be the case. While Cross River Rail may be able to cater for 48tph, it will not increase the overall usage of the network by this much due to the way it is configured.

We have noted, in the previous section, that the trains from north of Northgate are rerouted from the inner-city Mains to the CRR tunnel. Recall also that the Mains have a nominal capacity of 20tph in each direction (or 24tph if ETCS2 is introduced[7]), which means that their current capacity is 20tph (or 24tph with ETCS2). CRR has a capacity of 24tph, meaning the potential increase in capacity for these services is only 4pth – or 0tph (zero trains per hour) if ETCS2 is introduced onto the existing network. So far, this is a demonstrably terrible outcome – achieving only a 20% increase (or 0% increase) on one of the growth corridors seems like an immediate red flag. However, given CRR provides an overall increase of 24tph, a reasonable question to ask is: where is the rest of the capacity going?

Let us first consider how much capacity is available to the remaining lines in the current timetable[8]. There are currently 21tph arriving into Central between 7:30 and 8:30 in the morning on the Suburbans, split into:

- 4 Northgate
- 4 Shorncliffe
- 8 Ferny Grove
- 3 Airport
- 2 Doomben

It is also worth noting that Northgate is not presently set up to be a turnback location, with trains having to turnback on the main lines, and the Northgate starters are notionally short-starting Shorncliffe trains.

4 Cross River Rail business case, August 2017, page 4

5 Cross River Rail business case, August 2017, page 58-61

6 Cross River Rail business case, August 2017, page E6

7 Cross River Rail business case, August 2017, page 48

8 Translink

These services could be extended to Shorncliffe (or at least Sandgate, before the single-track section), effectively allocating a total of 8tph to the Shorncliffe line. It is also worth noting that the Airport line runs on a 15 minute 'clockface' timetable through this period, meaning that although only 3tph are operating, there will be a designated path to operate the 4th train.

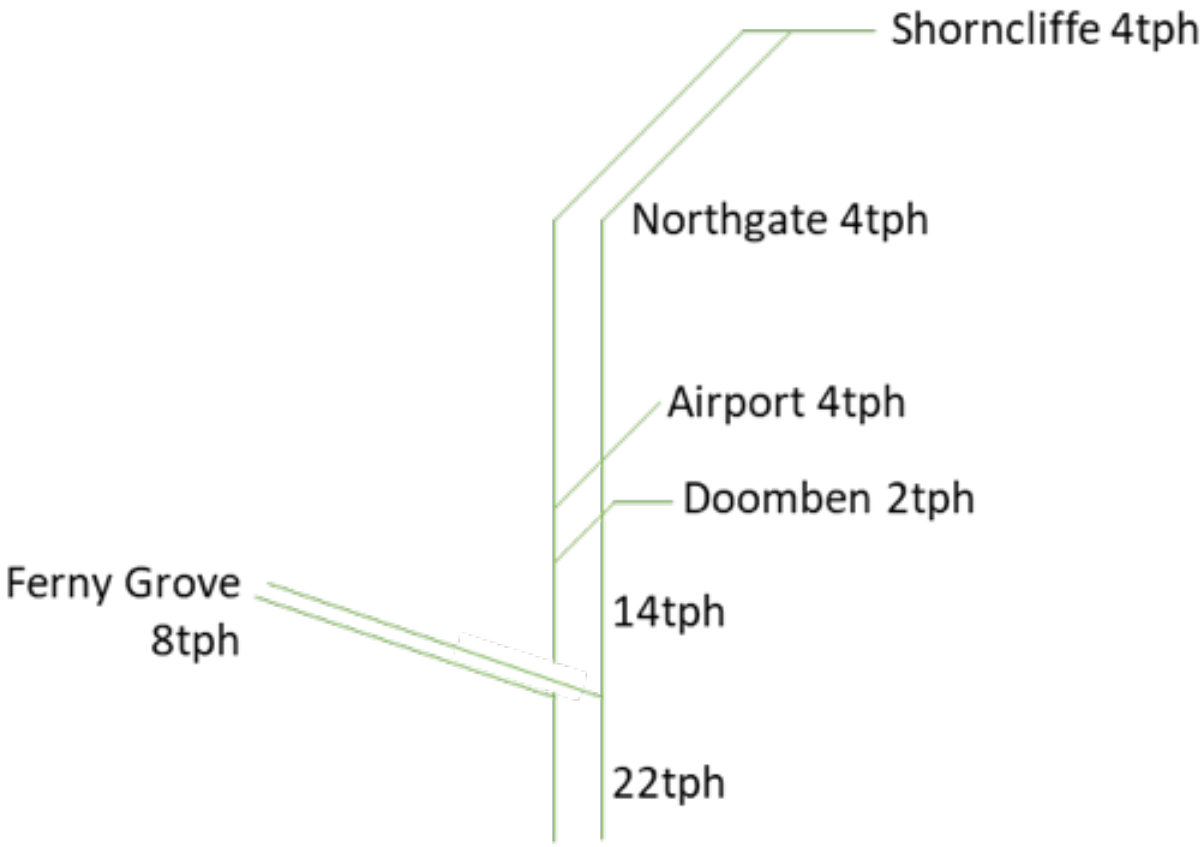


Figure 4: Current capacity and utilisation on the Suburbans from the north. Note that this diagram assumes the reserved Airport path is in place, to give a more complete picture of the current utilisation.

Recall that the Suburbans have a capacity of 24tph. This means that there are notionally 3tph remaining, or 2tph if the reserved Airport path is considered. In practice, these two remaining paths would be very challenging to use sensibly. A 24tph capacity gives rise to path spacings of two minutes and 30 seconds (2:30) through the city – i.e. 2:30 between consecutive trains. To have the timetable legible and user-friendly, services are timetabled to run on consistent multiples of this headway: 7:30 for Ferny Grove and Shorncliffe/Northgate, 15:00 for Airport, and 30:00 for Doomben. Both the Airport and Doomben lines are single track, which effectively locks their timings through the city as well as limiting their capacity to 4tph and 2tph, respectively. This means that in the current structure, additional trains could only be added to the Ferny Grove or Shorncliffe line, and would necessarily result in a 2:30 headway between two consecutive trains.

To illustrate the point, the two unused paths in the peak hour are at 7:37 (this could either be 7:36:30, 7:37:00, or 7:37:30, but the timetable is published only to whole minutes) and 8:07. Either side of these services are Ferny Grove trains (before, at 7:34/8:04) and Northgate trains (after, at 7:39/8:09). Adding in a train to either of these lines would result in a 2:30 gap, which is both too short (the signalling outside the CBD may not be able to cater for trains so close together), and probably not beneficial (the anomalous small gap in an otherwise clockface timetable would result in unbalanced loads and likely poor utilisation of the following train). While it may be possible to reorganise the timetable to make use of these 2 paths, it would certainly remove the clockface consistency currently provided. As such, we will assume that there is no further capacity available on the Suburbans.

In the proposed CRR configuration, the Airport, Doomben, and Shorncliffe (Northgate) services are routed down the inner-city Mains. This means that the current 13tph are sent through a corridor with 20tph capacity. Given that a further 1tph is reserved for the Airport, and this exhausts the capacity on the Airport and Doomben lines, this leaves 14tph on a corridor with a capacity for 20tph – leaving 6tph for growth on the Shorncliffe line.

Recall that the Shorncliffe line currently occupies a total of eight paths, but four of them start short from Northgate. There is no mention in any strategy document about a lack of capacity on the Shorncliffe line – indeed, growth in demand on these services between 2017 to 2018 was only 2% - yet an allowance for growth of 75% is being allocated to this line.

The remaining line, the Ferny Grove line, is allocated to the existing inner-city Suburbans on its own. This means that the eight paths in the current timetable are scheduled through a corridor with 24tph capacity. The Ferny Grove line is therefore being given capacity for growth of 16tph, or 200% of its current service level. Again, there has never been any mention of the Ferny Grove line – a mature, constrained corridor, more akin to a light rail line than a heavy rail main line – needing significant additional capacity. Growth on this corridor from 2017-2018 was only 2.5%.

Let us consolidate this outcome. The Caboolture and Kippa-Ring lines are gaining 4tph of capacity (or 20%), the Shorncliffe line is gaining 6tph of capacity (75%), and the Ferny Grove line is gaining 16tph of capacity (200%). These are against growth figures[9] between 2017-2018 of 9.75% for Caboolture and Kippa-Ring (off a base of 10,700), 2% for the Shorncliffe line (4,700), and 2.5% for the Ferny Grove line (5,700). This should be cause for concern – the lines with the highest growth and highest patronage, for which the project was meant to provide capacity, are being provided with markedly less capacity than two lines with low growth and low patronage.

The assessment becomes decidedly grimmer if ETCS2 is considered. Recall that the inner-city Mains could increase their capacity from 20tph to 24tph with ETCS2. This means that Caboolture and Kippa-Ring could already be given 24tph on the current infrastructure, meaning the total benefit from CRR, in terms of additional train paths provided, is zero. Conversely, with CRR, the Shorncliffe line now has another 4tph available to it, taken its newly available capacity gain to 10tph (a 125% increase from what it has now). Although there is no available quantification for the uplift on the Suburbans, the ETCS project claims a "20%" increase[10], which would align with the 4tph on the Mains, and therefore could reasonably imply at least 4tph on the Suburbans. This is reasonable, as technically the dual platform faces on the Suburbans should allow for an even higher throughput, but for now let us assume a 4tph increase to 28tph. This means the Ferny Grove line is being afforded 20tph of additional capacity – or some 250% above today's levels.

9 Based on the go-card data, for arrivals into the CBD, with the card 'touch-on' recorded before 8:30am

10 Queensland Government, Media Statements, World-class signalling system on track to boost SEQ's train capacity, June 21 2016

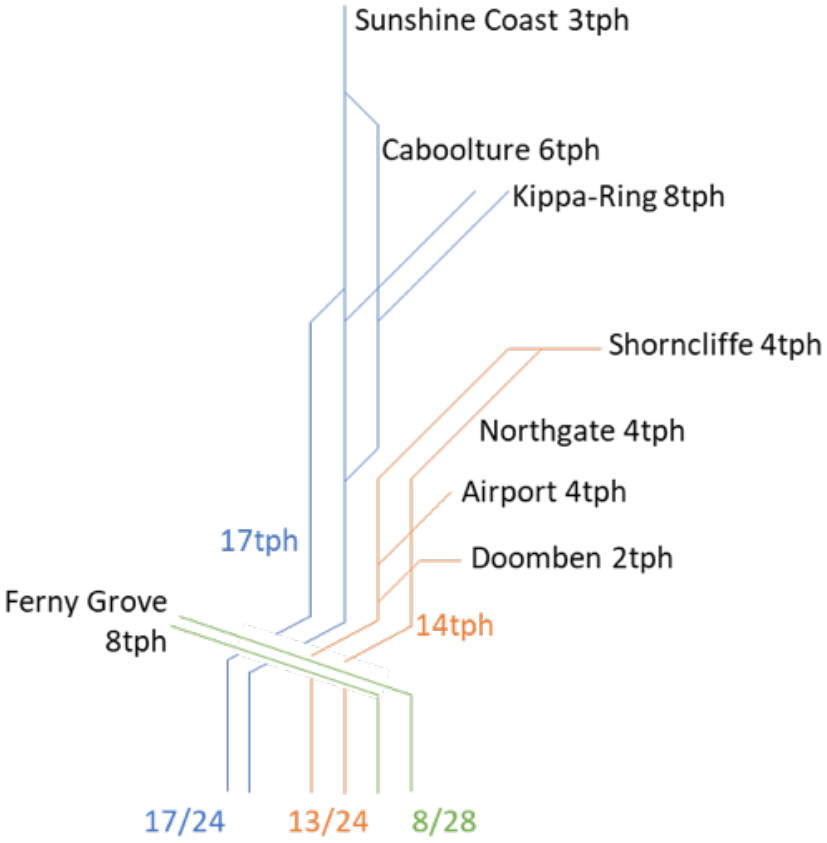


Figure 5: Current capacity and utilisation on the Suburbans from the north. Note that this diagram assumes the reserved Airport path is in place, to give a more complete picture of the current utilisation.

It should be immediately apparent that most of the additional capacity being provided by CRR is being wasted – it is likely to take a very long time to be used, if it ever is, and in the meantime will not address the long-term requirements for capacity on the North Coast line. The practical increase in capacity from the north, rather than the 24tph mooted by the project, is either 4tph or 0tph.

The only possible argument that a defender of CRR could currently put up is the notion that it could one day operate 9-car trains. This, its proponents might argue, would mean that the services from the North Coast line could operate with 50% larger trains – even if they still run 24tph, this would be the equivalent of 36tph with existing 6-car rollingstock. While this could be notionally true, there are a few reasons why this is unlikely to come to pass.

The drawings provided online in May/June 2019 show the arrangement for the stabling in Mayne. The intention for the use of the yards and their operation is clear, with the up and down tracks split around the stabling yards associated to the respective sector – the yard north of the flyover is clearly for the inner-city Mains, while the yard between the CRR tracks (denoted Mayne Yard East in the drawings) is for CRR[11]. The stabling roads have clearly been designed to accommodate only 6-car trains – indeed, the underlying satellite imagery shows 6-car trains on the existing roads. There is no greater indication of intent of operation than the design of the stabling yard (which, for whatever reason, seems to needlessly focus on having the longest approach road possible, and which mysteriously is missing from sheet 22 in the drawings). However, Mayne would supply the southern services for CRR – e.g. the Gold Coast – and not the North Coast line, meaning that assessing Clapham is also necessary. If nothing else, Mayne's configuration all but precludes 9-car operations from the Gold Coast line.

11 Cross River Rail, General Arrangement, 2019

The arrangement at Clapham is more complex, as there is nothing immediately obvious to reference from to gauge the length of the roads. Therefore, it is necessary to measure positions in something like Google Earth to try to work out the lengths of the roads. Based on rough measurements, it seems that the layout is designed to accommodate 6 x 6-car roads, 14 x 9-car roads, and 4 x 12-car roads (which would be taken as double-ended roads holding 2 x 6-car trains each)[12].

With 24tph coming through CRR from the north, and potentially 8tph continuing as contra-peak (4tph Gold Coast and 4tph Beenleigh, for example), this would leave 16 trains each hour to go to stabling. If the peak level of frequency extends to 90 minutes or two hours, this gives 24 or 32 trains needing to head to stabling. It is clear, then, that not all trains from the North Coast line could operate as 9-car trains, as there is simply no space for them at Clapham. If Clapham was fully utilised based on the configurations described above, this would give space for 22 trains – something akin to the number of trains stabled for a 90-minute peak. Of the 36 trains in a 90-minute peak, only a maximum of 28 of them (14 from the stabling roads, and 12 continuing as off-peak) could conceivably run as 9-car trains. However, we have already established that the southern services will not run as 9-cars due to lack of capacity at Mayne, which makes it very unlikely that they would operate this way as contra-peak services – the significant amount of track and platform works required from Dutton Park to Varsity Lakes would not justify the services only operating in the contra-peak only. Therefore, we can assume with some justification that a maximum of 14 trains could operate in 9-car configuration from the north. For the time being let us be generous and consider that all these 14 trains are in the peak one hour. This would give a capacity of 14tph 9-cars and 10tph 6-cars, equivalent to 31tph 6-cars. This is an increase of 7tph 6-car (equivalent) when compared to a scenario with ETCS2 only – an improvement of about 30%, which is at least an increase, but still not significant compared to the investment required (and certainly well below what could be achieved).

Unfortunately, this again overstates the hourly capacity increase that's likely to be achieved. The Redcliffe Peninsula Line was designed for 6-car operation – this is obvious in the platform lengths, and the stabling layout at Kippa-Ring of double-ended 2 x 6-car roads. It would not be possible to operate 9-car trains on the line without major changes to the platform configurations, location of points (including the one allowing access from the stabling yard), and effectively halving the capacity of the stabling yard. Given the Kippa-Ring services stop all stations through to Northgate, this would also require extending all stations on the line to 9-cars, which would be very expensive and disruptive. Extending the Caboolture services to 9-cars would be easier, with fewer platforms to extend (some are already long to accommodate the long distance Traveltrain services), and is likely that these services, including those from the Sunshine Coast, would be extended to 9-cars.

Given the existing timetable has an even split between Kippa-Ring and Caboolture/Nambour services, and the 2017 business case actually had 16tph from Kippa-Ring compared with 12tph from Caboolture/Nambour, it is reasonable to assume that no more than 12tph would be allocated to each group. As such, at most 12tph would operate as 9-cars. This takes the effective capacity to 30tph x 6-car equivalent at most – or an increase of 6tph or 25% against the ETCS2 scenario. Again, this is okay – at least it is an increase – but is hardly a long-term solution nor the best conceivable outcome. The growth in the North Coast line patronage ran at almost 10% between 2017-2018 (notably during the era of 'Rail Fail', when confidence in the railway was probably lower than normal). At this rate, a 25% increase in capacity doesn't even account for 3 years of growth.

To conclude the assessment of the north: against a background of ETCS (which CRR is mandating), CRR will provide a capacity increase to the North Coast line services of between 0% and 25%, and effectively no increase in service frequency overall. For the lines with low growth and low patronage, the Ferny Grove and Shorncliffe lines, capacity increases of 250% and 125%, respectively, are being provided.

12 Cross River Rail, General Arrangement Sheet 4, 2019

Figure 6: The apportionment of growth compared to today's network with ETCS2. The heaviest growth in the north, on the North Coast Line, achieves either no growth or 25% growth in capacity, against patronage growth of around 10% p.a.

Of course, the project is not solely about increasing capacity from the North Coast line, but additionally the Gold Coast line.

The current timetable has 8tph from the Cleveland line, and 10tph from the Gold Coast line (including Beenleigh line services), for a total of 18tph. There are thus 6tph available currently, or 10tph if we assume an increase of 4tph from ETCS.

Given that we can see that all North Coast line services will run through CRR, and onto a single outbound track (in the morning) from Dutton Park to Clapham Yard, it is reasonable to conclude that no services from South Bank (i.e. trains coming from Ferny Grove) will head south at Park Road. This then implies that all services south of Park Road will operate via CRR, leaving the Cleveland line as the only service group operating via South Bank and the Merivale Bridge.

This is something else that should be considered. The single outbound track from Dutton Park in the morning will take up to 24tph – all the trains that enter CRR from the north will have to come out the southern portal. These services will comprise a mix of revenue trains and empty trains (we earlier guessed that 8tph and 16tph, respectively, might be around the mark). These revenue trains must also be formed of a mix of all-stations and express services. Given the lesson on homogeneity above, this necessitates that all these services must travel at the lowest speed – that of an all-stations train. What this means is

that until the level of service decreases – at Moorooka, when the empty trains will enter Clapham – all the Gold Coast services will run at all-stations speed. Given the five stations through this area, this is likely to add approximately five minutes to the overall journey time for these services, even compared to today. A similar thing will happen in the evening for the inbound services from the Gold Coast.

Surprisingly, "longer journeys to the Gold Coast" has never been trumpeted as a key benefit of the project, but for passengers travelling to the Gold Coast from the CBD in the AM peak (or vice versa in the PM peak) the current design would lock in all-stations speeds – seemingly forever.

Let us first consider the Cleveland line. Currently operating 8tph, it will now have the entire capacity of the Suburbans – 24 or 28tph – available, representing a capacity growth of 200-250%. This is exactly the same as the Ferny Grove line, although the Cleveland line has some additional challenges. While it did have slightly higher growth between 2017-18, at 4%, it is a capacity constrained corridor by virtue of the single track between Manly and Cleveland. This track notionally allows for only 4tph (this is observed by examining the timetable and the run times between stations with passing loops, e.g. Thorneside to Wellington Point), meaning any additional services will either need to come from west of Manly, or will require duplication of the line. Furthermore, the line is notoriously slow and circuitous, which is partially offset in the current timetable by operating some express services from Cleveland. However, this express running is only possible due to the otherwise low frequency of the line, whereby express and all-stations trains operate on the same track. Any increase in service levels will reduce the ability to operate express, thereby increasing travel times. Given that increasing travel times reduces the overall patronage, this represents a challenge for the Cleveland line which cannot be overcome without significant track amplification (i.e. a third electrified track at a minimum). As such, increasing service levels on the Cleveland line would be challenging, and it is unlikely that any more would be operated without some significant change to the infrastructure. Therefore, not only would the Cleveland line be unlikely to make use of any of the existing spare paths, but in the CRR configuration it would end up with somewhere between 16-20 train paths per hour that it would not use.

CRR has a capacity of 24tph, meaning that the Gold Coast line has 24tph of capacity available. This is an increase over the 10tph used in the current timetable, although up to 16tph or 20tph (with ETCS) could be operated without CRR using the available capacity (and without providing any additional services to the Cleveland line). Given the discussion about the Cleveland line above, it is likely that all the spare capacity would be allocated to the Gold Coast line, meaning that – against an ETCS scenario – CRR is providing only 4tph benefit, or 20%. Unlike the north coast, we know that operating 9-car trains from the south is not possible due to the lack of suitable roads in Mayne, meaning there is no scope for further capacity increase above this point.

To conclude the assessment of the south: against a background of ETCS, CRR will provide a capacity increase to the Gold Coast line of 20%. For the capacity constrained Cleveland line, growth in capacity of 250% is being provided.

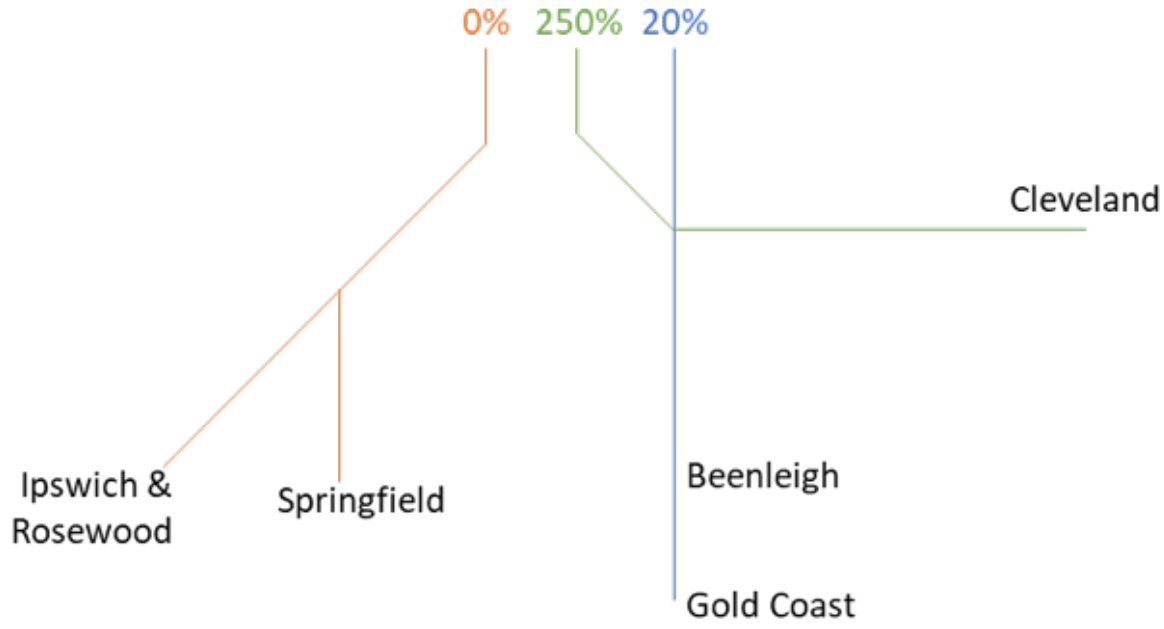


Figure 7: While the Western corridor was never intended to see growth, the Gold Coast line seemingly only achieves a 20% growth in capacity. Meanwhile, the capacity constrained Cleveland line receives an additional 250% capacity.

The value equation for the current version of Cross River Rail

"Price is what you pay, value is what you get" – Warren Buffett.

The official cost of CRR is $5.4bn, however Steven Wardill wrote an assessment in the Courier Mail (March 29th, 2019), that up to an additional $10bn of investment may be required to support CRR. This takes into account aspects such as constructing platforms on the dual gauge line, and Clapham Yard, which had previously been excluded from the project cost but are necessary for – and necessitated by – the project. Indeed, the State Infrastructure Plan has $6.9bn of line items directly attributable to Cross River Rail[13], with the possibility of associated works under other project names. Let us be generous and consider both the official $5.4bn figure, and a less extensive (but still increased) $10bn total figure.

In terms of meaningful, useable capacity, when compared against an ETCS scenario, Cross River Rail will provide additional capacity of 6tph from the North Coast line (6 x 6-car equivalent capacity), and 4tph from the Gold Coast line. Another 20tph of capacity is provided to the Cleveland line, 20tph to the Ferny Grove line, and 10tph to the Shorncliffe line, most of which is either unusable or unnecessary. Given the primary objective of CRR was to provide additional capacity to the north and south, we will consider the 10tph provided to these corridors as the benefit.

One particularly useful metric of assessing the value of a project is the 'cost per additional train path', or 'CPATP'. In simple terms, it is just the additional capacity provided divided by the total project cost.

13 State Infrastructure Plan, Part B: Program - 2019 Update, page 103

In this case, the 10tph of meaningful capacity being provided by CRR is divided by the project cost – or costs in this case, as we are considering the $5.4bn and $10bn figure. This gives a CPATP of between $540m and $1bn.

Consider this against the ETCS project, which has an estimated cost of $634m[14], and an estimated benefit of 16tph – 4tph to each of the North Coast line, Gold Coast (and Cleveland) lines, western lines, and inner north lines. Let us be generous (to CRR) and consider that 4tph of these paths are not critical, those from the inner north, and that the project really provides only 12tph of meaningful benefit. The CPATP for the ETCS project is $53m – some 10-20 times cheaper than that for CRR.

Let us momentarily give CRR the benefit of the doubt, and suggest that instead of 10tph of benefit, there will actually be 30tph of benefit. Even then, the CPATP is $180m-$333m, still in the order of 3-5 times more expensive than ETCS.

Perhaps the argument then is that ETCS is the 'low-hanging fruit', and that CRR provides the step-change in capacity to the network that allows substantial growth. While it may be true on some level, it doesn't excuse CRR from its poor valuation on the CPATP metric – something which will become increasingly clear later on.

It is worth considering that the CPATP metric is a very accessible and effective tool for measuring the value of a project. As long as there is some understanding of the network operations, and the likely demand for services, CPATP gives a very quick and easy way of quantifying the value of a project – all without an economist in sight.

Cost per additional train path

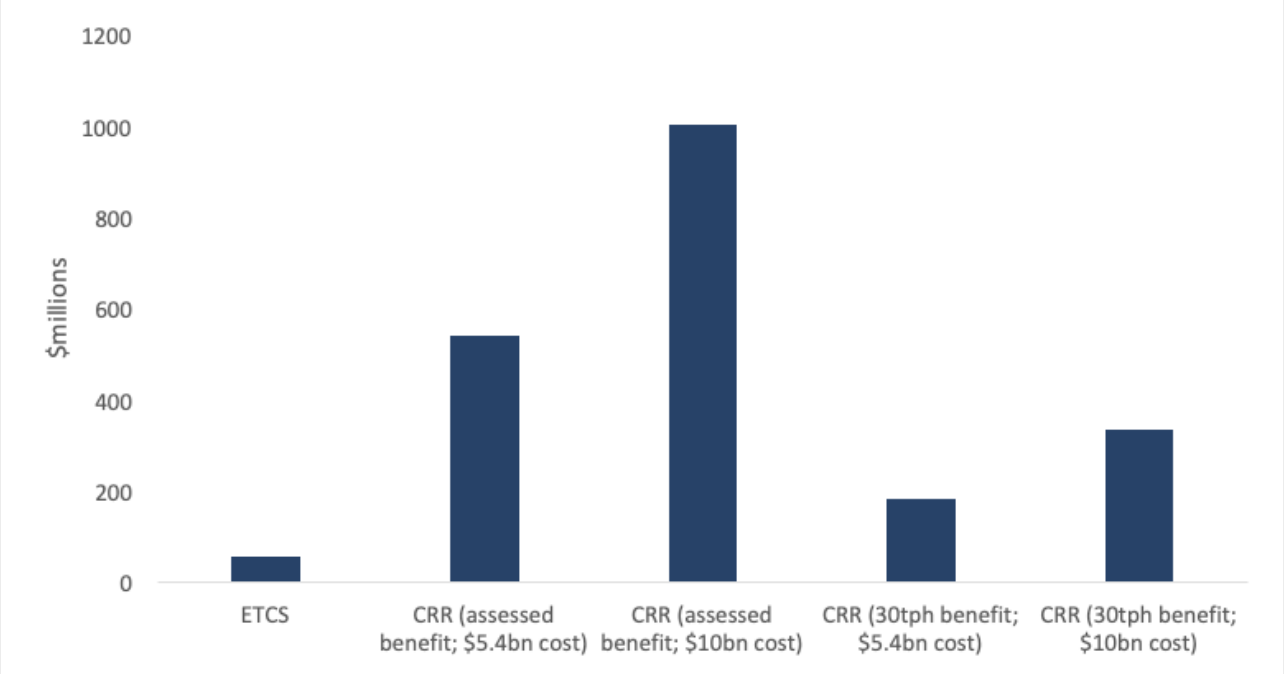


Figure 8: Cost per additional train path compared against the ETCS project. On the assessment here, CRR is approximately an order of magnitude higher in cost per the same benefit.

14 Australia & New Zealand Infrastructure Pipeline (ANZIP), Euopean Train Control System, 2019

Phase One: Fixing the current Cross River Rail project

"Complaining about a problem without proposing a solution is called 'whining'" - Theodore Roosevelt Jr.

While it is easy enough to find fault with any proposal, it is not sufficient to simply point out deficiencies without offering an alternative. It is true that no solution is perfect, and it may be the case that the problem that CRR is trying to solve doesn't have an elegant solution – although, as it turns out, it does. As such, this next section describes how to design and operate Cross River Rail so as to gain more benefit from the project, and forms the basis of a long-term rail strategy for Southeast Queensland.

It is worthwhile acknowledging that the contract to build CRR was signed in June 2019, and some elements of work have already begun. As such, proposing something radically different would be a pointless academic exercise. Instead, this paper considers that the general form of the project – a twin tunnel between Dutton Park and the Exhibition line, with changes to the northern and southern interfaces – will remain the same.

Inspired history

The biggest problem with Cross River Rail as it is currently presented is – as was described at length in the previous chapter – the misallocation of capacity to demand, particularly from the north. This is by virtue of the infrastructure design, which minimises the capacity available to the North Coast line. Fortunately, it is not necessary to devise a more appropriate design and operational strategy for the north, as it was already completed and assessed in the 2017 business case.

The 2017 business case design ('the 2017 design') greatly changed from the original 2011 design, with instead a much more substantial - and beneficial - reconfiguration of Mayne Yard. The running tracks were sent through the middle of the existing yard, creating a dedicated stabling space for Cross River Rail, and an eastern yard dedicated to the Suburbans via the Ferny Grove flyover. The Mains between Bowen Hills and Breakfast Creek were realigned to create a similar stabling facility north of the Ferny Grove flyover, finally removing the crossing conflict of the balloon loop. The Mayne area was therefore divided into three distinct stabling areas, almost completely free of conflict (only one crossing on the Ferny Grove line remained). On top of this, a single cutting allowed for a grade separated connection between the Mains and Cross River Rail tracks, allowing services on the northern Mains to travel via either route without conflict[15]. It is difficult to conceive a more flexible and robust arrangement of the Mayne area, maximising the capacity available to the network. While the current design retains a similar improvement in terms of removing conflict for stabling access (showing that the "Curate's egg" indeed does have some parts that are very good), the key difference is the removal of the grade separation and the ability to flexibly path trains.

As such, the 2017 design showed a much higher capacity from the North Coast line, with a total of 30 trains coming from Kippa-Ring, Caboolture, Nambour, and an extension to Caloundra, by 2036[16]. These trains are split between Cross River Rail (12, seemingly from Caboolture, Nambour, and Caloundra according to the diagram) and the inner-city Mains (18, from Kippa-Ring). These trains are shown to operate on one track between Northgate and Mayne, stopping only at Wooloowin (and not Eagle Junction, as is the standard stopping point in the current timetable).

15 Cross River Rail, General Arrangement, Sheet 12, 2017

16 Cross River Rail business case, August 2017, page 141

This capacity appears to be explained by commentary in the business case, "Unlocking capacity constraints north of the portal will require enabling works between Albion and Northgate, in addition to the northern connection. These works propose reconfiguring platforms at Northgate and Wooloowin stations so they can function as double-sided platforms. Supported by express running and upgraded signalling, this would shorten headways between trains and increase the corridor's capacity by enabling increased throughput"[17].

It is clear to see the inherent thinking behind this approach. The pressing issue, where additional capacity needs to be supplied, is to the North Coast line. The three-track arrangement north of Northgate allows two peak direction tracks, each conceivably with a capacity of 20-24tph (with appropriate signalling). This capacity is limited by the need to merge onto one track from Northgate to Albion, whereas afterwards they could again be split between two corridors of 20-24tph capacity each – the Mains and CRR – with the ability to split these services back into two corridors at Mayne being facilitated by the grade separation of the tracks provided by the design. Therefore, the existing peak capacity would be above 40tph, and 40tph capacity would exist through the city with CRR in place, meaning that capacity is limited by the Northgate to Albion section. Conversely, capacity in the entire system is maximised when the capacity of the section between Northgate and Albion is maximised.

The 2017 operations plan seems to tap into a very deep understanding of the way railways, and in particular signalling, work. While it is easy to suggest that the capacity of a standard suburban railway track is somewhere between 20-24tph, this always assumes that the trains are stopping at stations. Where trains do not stop – such as the section between Northgate and Albion (except Eagle Junction) for North Coast line services – there is the potential for far greater throughput.

Signalling and capacity is terribly complex, but for the sake of illustration we will consider an overly simplified example. Fundamentally, signalling is designed to keep trains colliding with each other, which means keeping them a safe distance apart. The minimum interpretation of this is the braking distance of a train, whereby the track is divided into controlled portions – block sections – based on the braking distance length. A train is not authorised to enter a section if the train in front has not cleared the following section, ensuring that in the worst case they are kept braking distance apart. The further ahead the first train is, the faster the following train is permitted to go; conversely closer running reduces line speed.

Let's assume some rough figures for the illustration – line speed of 40km/h (11m/s), braking rate of 1m/s/s, full line speed permitted with train spacing of five times the braking distance, and train length of 225m (a 9-car train). Using an online calculator, this gives a braking distance of 62m. Our full clearance is five times this amount, so 310m. The total distance a train needs to travel to fully clear a signal is 310m, plus the train's length (225m), for a total of 535m. At a rate of 11m/s, this takes 49 seconds to clear. That is, a train could follow another train at full line speed every 49 seconds using these assumptions – equating to over 60tph. Even if we halve the braking rate, this results in a clearance length of 840m, with a following headway of 76 seconds, or over 45tph.

While these figures are arbitrary, and do not contain the detail of a proper signalling implementation – sighting distances, overlaps, different performance characteristics – it suffices to show that mathematically the throughput for trains running without stopping (and at relatively low speed) is significantly higher than standard operating track capacity. Indeed, this is readily observed in the graph (Figure 2) accompanying the lesson on homogeneity at the start of the document – compare the spacing of trains running express to those stopping all-stations.

17 Cross River Rail business case, August 2017, page 79

It is therefore clear that the intention was to signal the section between Albion and Northgate in such a way to maximise throughput based on trains not stopping. Where trains were required to stop – notably Northgate and Wooloowin – these were to be configured with "double-sided platforms", presumably in much the same way as Central station is on the Suburbans. The minimisation of the dwell time impact on headway through this dual platform configuration must have allowed operating headways of 120 seconds – 30tph – to run between Northgate and Albion. Conceivably this is perfectly functional, as it results in a departure off each platform face (Northgate and Wooloowin) every four minutes with an even split. It is unclear why Wooloowin was chosen as the stopping point, rather than the natural junction of Eagle Junction, however the overall throughput remains the same.

Figure 9: AM peak flows with the Northgate and Wooloowin configuration. Up to 15tph from each of the Sunshine Coast and Kippa-Ring lines can be operated on the single track by running express, and then splitting through the Mains and Subs. The lower contra-peak service level can fit on one track between Northgate and Petrie. NB: the arrangement at Petrie is not shown accurately here, as the junction allows conflict-free movements.

Therefore, the 2017 design allowed for a total of 30tph per hour from the North Coast line. This is an increase against an ETCS scenario of 6tph. However, in much the same way as the current design, it is important to consider the possibility of operating 9-car trains. Given that the Kippa-Ring services would be sent via the inner-city Mains, they would not be lengthened to 9-cars (recall that there would be significant problems in doing this in any case). The trains from Caboolture and Nambour (and Caloundra, but we will ignore that particular strategic element for now), could be operated as 9-car trains, with all 12tph capable of being lengthened.

It is not 100% clear why the 2017 operating plan opted for an 18/12 split between the Mains and CRR. It would appear to be more beneficial and more easily operable to alternate 15/15, providing exact headways at the points of merging for the Albion to Northgate section. Perhaps there were demand-based reasons for this, but it stands to reason that at least 15 trains could operate by CRR, and these 15 could all be 9-car trains.

As such, the total amount of capacity coming from the North Coast line would be 18 x 6-car trains per hour, and 12 x 9-car trains per hour, for a 6-car equivalency of 36tph. This is a 12tph gain over the ETCS scenario, or a 50% capacity increase for the North Coast line services. This is double the capacity gain of the most optimistic scenario for the current CRR design.

Of course, this operation results in an imbalance of capacity between the peak and contra-peak. While the two peak tracks would carry a total of 30tph in this scenario, the contra-peak track – between Albion and Petrie – would be limited to notionally 20tph. However, this is far higher than the current contra-peak level of service, and would still facilitate a 15-minute service to both Kippa-Ring and Caboolture if desired. The benefit of the yards at Mayne is that there is no need to send excess services out of or into the city when they are not needed, reducing the requirement for track capacity in the contra-peak.

In this configuration, there is no change to the manner in which the Suburbans operate from the north. The Shorncliffe, Airport, Doomben, and Ferny Grove lines would operate in virtually the same fashion as they do today. This would provide no additional capacity for these services, save for the 4tph additional expected in the ETCS scenario. It would be challenging to schedule 28tph while maintaining a clockface pattern, although if the capacity could be increased to 30tph – possible, but beyond the scope of this document to prove – an almost entirely clockface timetable could be achieved. Nevertheless, even if no additional capacity is provided in this area, for the reasons outline above this is not considered to be a major problem – and is certainly not to say that capacity for these lines could not or should not be increased at some point.

There is the matter of considering where the services from the north go once they are through the city. The most straightforward are those from Kippa-Ring – these 18tph head out on the Mains towards the west, in much the same manner as the current timetable (which has 17tph). The 12tph from CRR would continue south out of the portal, with some continuing as contra-peak services and some stabling at Clapham. The biggest change from the current design is the increase in the number of services heading south of the Suburbans – 22tph, versus the 8tph assumed in the current design.

While the 22tph is effectively the same number as the current timetable, the major difference is now the single outbound track south of Park Road is being used by services from CRR. As opposed to the current CRR operating plan, there are only 12tph instead of 24tph using the outbound track. However, to mitigate against the slowing of express Gold Coast services, the objective should be to avoid sending any additional trains from the Suburbans towards the south. This means that 22tph must be sent somewhere else.

At best, 6tph could be sent eastwards towards the Cleveland line as contra-peak services, perhaps notionally 4tph to Manly and 2tph to Cleveland. There is effectively no stabling available on the Cleveland line, although conceivably there are locations that could be used for stabling – the section "Stabling and fleet requirement" later in this report examines this further, noting an ability and justification for the development of stabling on the Cleveland line in the future. However, for the time being let us assume that no more than the 6tph can be sent out to the Cleveland line.

This leaves a balance of 16tph that need to be accounted for. They cannot turn towards Mayne at Roma Street, because the magnitude of the crossing conflict against services from the west would be too high. Effectively, these trains are quarantined between Bowen Hills and Park Road on the Suburban tracks.

Between Park Road and the Merivale Bridge there are three tracks, and each of the three stations here – Park Road, South Bank, and South Brisbane – has at least three platforms. If we assume that only the Cleveland line trains are using the inbound route – reasonable, as we have already decided to avoid sending anything south, which would sensibly mean that nothing comes from the south either – then this is only 8tph, which are more than capable of being catered for on one inbound track.

The 4tph from the Airport could reasonably be turned around at South Bank station – this is likely as far as the majority of tourists and business travellers are likely to want to go, with the ability to travel further on the network available through transfer at Roma Street station. This would require new crossovers to allow access to platform two from the outbound track, and then from platform two back to the inbound track towards the city. 4tph can readily be turned around on one platform, and this would allow a dedicated airport shuttle service to operate all day – including the potential for dedicated rollingstock, if desired.

In the same fashion, 4tph could be turned back at platform two at South Brisbane. In effect, it doesn't matter which services, as ultimately any group could be interchanged, and no suburban service is as specialised as the airport train.

At least another 4tph could be turned back at Park Road station. The current configuration has both inbound and outbound Cleveland services on platforms two and one, respectively, which would leave platforms three and four free. However, this would cause crossing conflicts with the terminating services – albeit at a relatively low frequency. It would be possible to completely avoid the conflicts if the inbound Cleveland line was realigned to connect to either platform three or four at Park Road, allowing the turnback to occur on platform two (and potentially platform three) without any conflict.

This leaves a balance of 4tph. Depending on how Park Road is configured, these services could be turned around there, for a total of 8tph off two platforms. Alternatively, one of the platforms at Roma Street could be turned into a turnback road instead – in reviewing the current timetable, this seems like it already happens with Doomben trains. Using platforms five and six at Roma Street would result in conflict free operations, although it would come at the cost of the dual platform benefit that is currently provided. Conceivably platform three could be utilised as well, but would need to be altered to become a through road from the north to avoid crossing conflicts. Regardless, there are multiple ways in which these remaining 4tph could be catered for.

This results in a total of 16tph turning back between Roma Street and Park Road, joining the 8tph from the Cleveland line, to reach a total of 24tph. Some of these services would form the contra-peak heading north, and some could potentially form secondary inbound runs later in the peak, while the balance would stable at either Mayne (via the Ferny Grove flyover) or Banyo, ready for the start of the afternoon peak period.

Figure 10: Simple configuration of the South Brisbane to Park Road corridor. Note that this layout includes modifications to Park Road to remove conflicts

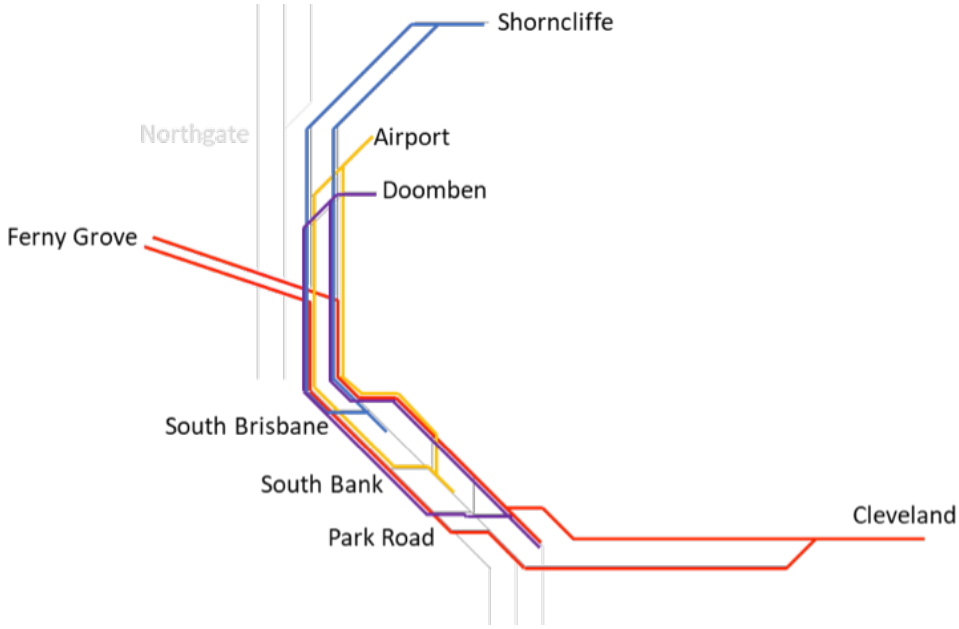


Figure 11: Train flows on the Suburbans, making use of the modified infrastructure to terminate trains at South Brisbane, South Bank, and Park Road, without crossing conflicts.

If the Cleveland line required more capacity, say to 10tph, this would require an additional 2tph to be sent out onto the Cleveland line, potentially increasing the contra-peak frequency or requiring stabling to be developed.

This concept of operations is actually reflected in other places around the world. The Dublin train network has its major station, Connolly, immediately north of a river. Some services terminate at Connolly, while some travel across the bridge with some remaining services terminating at Pearse and Grand Canal Dock stations, two and three stops past the river. The remaining services continue south towards Greystones.

The other similarity is one the most innocuous yet efficient pieces of infrastructure in the rail world, which is the configuration of turnbacks for the trams at Melbourne University on Swanston Street. A very high number of trams come from the south, with relatively few routes continuing north. Between the up and down tracks on the north of the station, there are three turnback roads, allowing for very high numbers of trams to turn around in the vicinity of their terminus without conflict. It is an absolute triumph of simplicity and functionality, and a good example for adaptation into heavy rail operations – such as the proposed operations in Brisbane.

At this point, given that the Suburbans are full in both directions, there is no other choice for the Gold Coast line but to go through CRR. In this way, the peak directional flows for the Cleveland and Gold Coast lines are the same as they would have been in the current CRR configuration, with two major differences. The first is that additional capacity afforded to the Cleveland line is minimal (although expandable through the provision of stabling on the Cleveland line), the second being that with CRR being used only by the Caboolture and Nambour lines in the north, it is possible to operate 9-car trains – especially from the Gold Coast – so long as the design at Mayne is changed to accommodate 9-car trains.

The Gold Coast line therefore has a new capacity of 24tph, with the added benefit of being able to operate 9-car trains, meaning an equivalent maximum capacity of 36tph. Using the same metrics as assessing the current CRR – where there is conceivably a maximum of 20tph available to the Gold Coast in the current network with ETCS – this results in an increase in capacity of 16tph, or an 80% capacity gain.

To summarise these changes, the altered CRR configuration here allows for an increase of 50% (12tph equivalent) for the North Coast line services, and an 80% (16tph equivalent) for the Gold Coast line services compared to the ETCS scenario. There is minimal growth provided for the inner northern lines, and growth for the Cleveland line is dependent on the willingness to provide additional stabling on the Cleveland line, noting that the growth could still be as high as 16tph if large stabling capacity was provided.

Figure 12: Train flows possible with the revised CRR at day one. Note that the Cleveland line could operate higher than 8tph – conceivably up to 28tph – with stabling on the line.

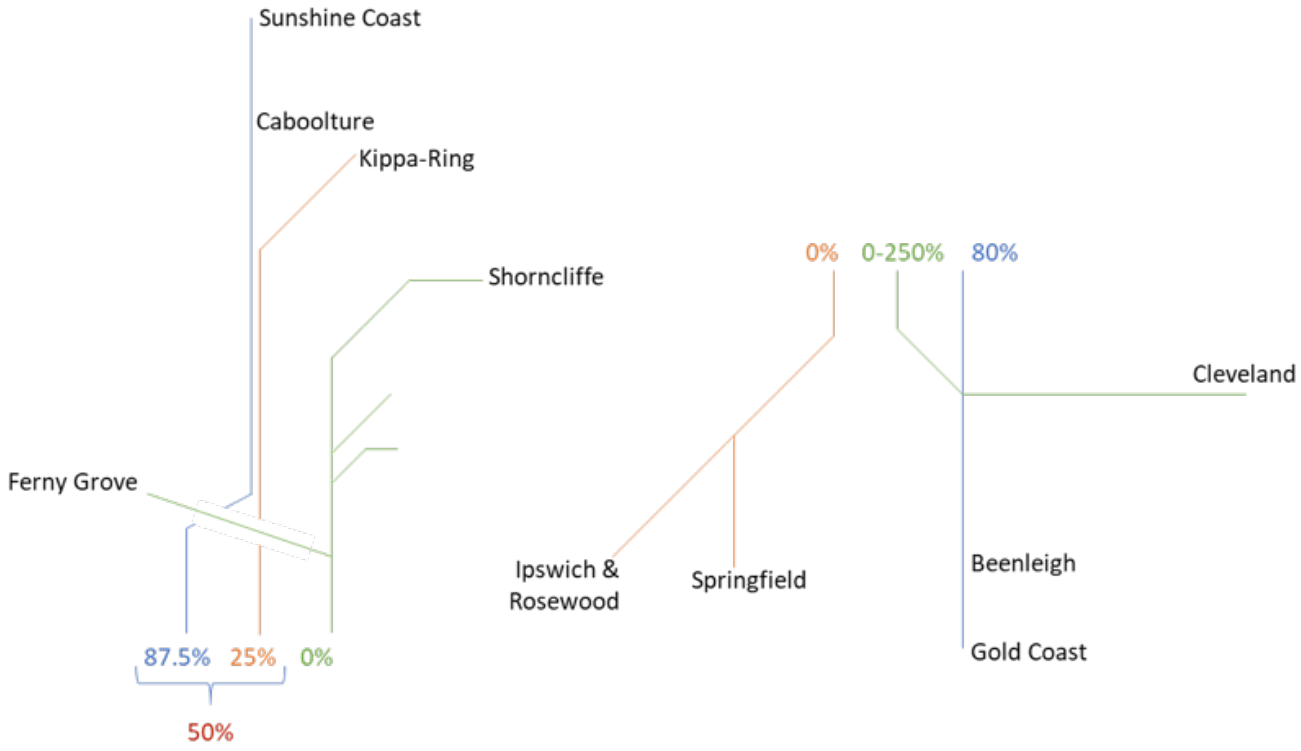


Figure 13: Capacity gain per corridor, compared to the ETCS2 scenario. The capacity gain from the Kippa-Ring and North Coast lines is 50% combined, while it is possible - though not required - to increase the Cleveland line to the same capacity as the current CRR design.

This compares with an increase of 6tph (25%) capacity for the North Coast line and 4tph (20%) capacity for the Gold Coast line in the current configuration of CRR. It is worth noting that the significant uplift in capacity to the two main corridors that were identified as need more capacity comes without significant changes to the project. Reverting the northern connection to that prescribed in the 2017 business case, and designing Mayne and Clapham to hold 9-car trains are the only changes to CRR itself, while the modifications between South Bank and Park Road, and the Albion to Northgate alterations are the only additional existing network enhancements that need to be undertaken.

Let us consider again the CPATP measure in the context of this updated design. We have now discerned that it is providing 28tph additional capacity to the north coast and Gold Coast lines (for the time being, we will ignore any capacity afforded to the Cleveland or inner northern lines). If the current project is officially costed at $5.4bn, let us be conservative and suggest that the additional changes will cost another $600m, for a total of $6bn. For the larger figure, incorporating off-project works, let us say $11bn – a full $1bn more than the current CRR.

Using these figures, the revised CRR returns CPATP metrics of $192m or $392m. On a like-for-like basis, the compares to $540m-$1bn in the current CRR, meaning that the revised version is providing value approximately three times greater than the current version of CRR would achieve.

In the revised CRR, the additional capacity is provided to the areas of the network that need it – and in the areas that CRR is ostensibly being created to provide for. It is clear to see that the current version of CRR is clearly unfit for purpose, and does not represent value for money in any way.

Cost per additional train path

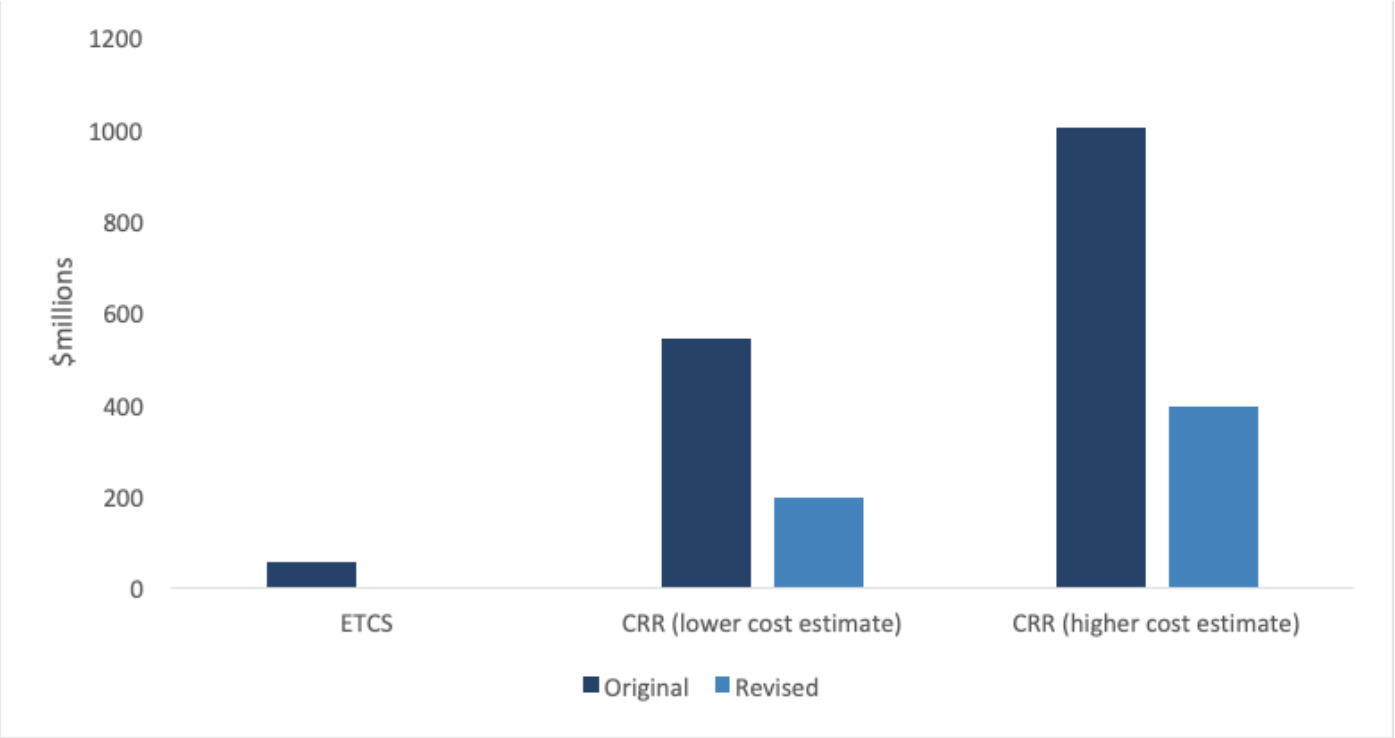


Figure 14: Contrast with Figure 8, the values for the CPATP for the current and revised CRR, under the lower and higher cost estimates. The CPATP for the revised is around 60% lower than the current.

The only potential drawback of the revised CRR plan presented here is that the off-peak utilisation may be too low. With perhaps 8tph to the Gold Coast (something like 4tph Gold Coast, 4tph Beenleigh), and potentially only 4tph to Caboolture/Nambour, the frequency through CRR during the day is probably insufficient for a major CBD corridor. At the very least, the excess 4tph from the south could be turned back at Exhibition station or Mayne, to provide a minimum of 8tph all day in both directions. If a higher level of frequency through the CBD was required, it would be possible to operate shuttles between Mayne and Clapham, or even make use of the dual platforms at Northgate to further expand the reach of the project in the off-peak. Nevertheless, there are mechanisms available for sensibly increasing the off-peak level of service through the CBD to any reasonable level desired.

Modular development and future proofing

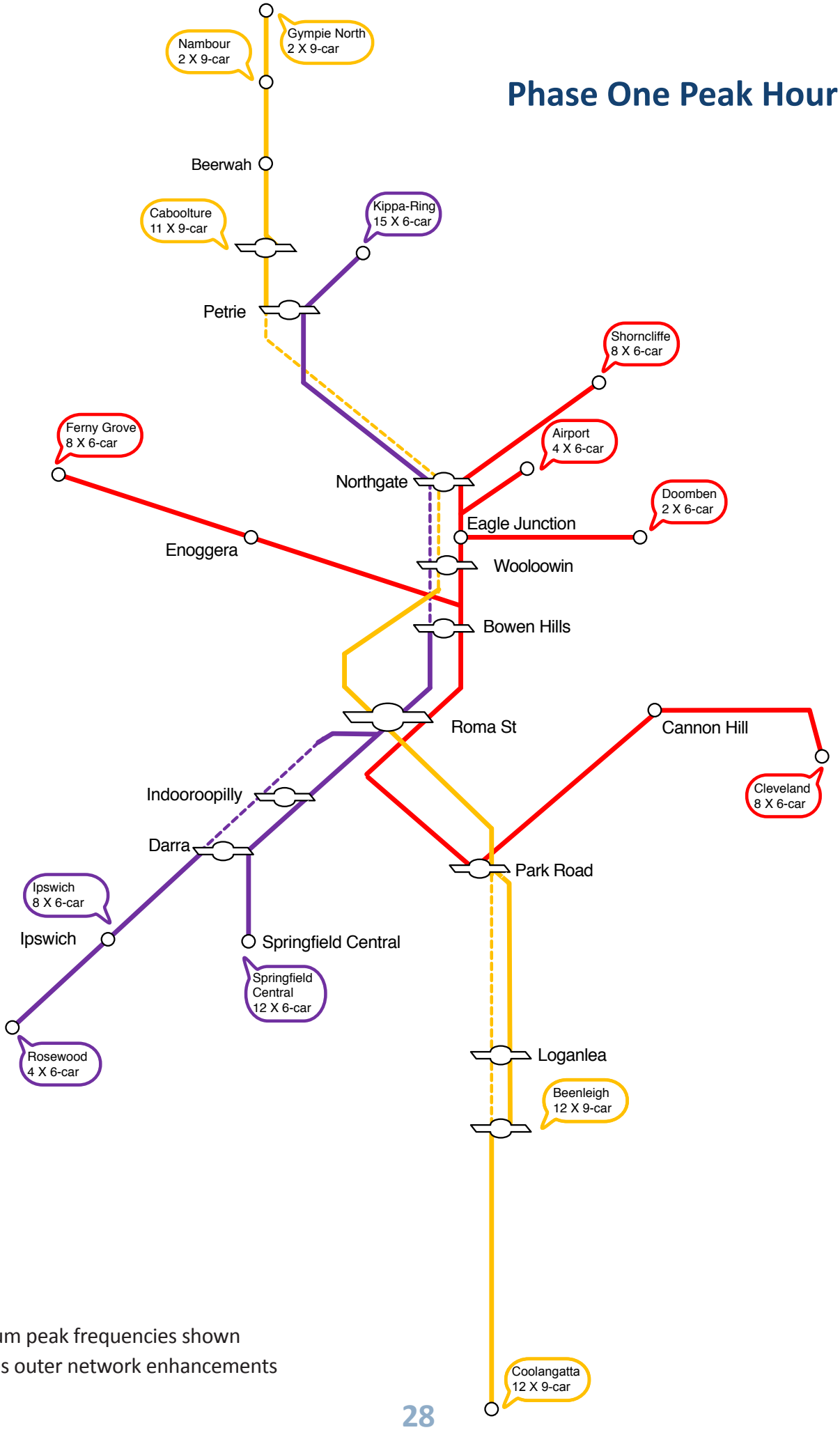
At this point we have now developed a plan for CRR that largely fits within the existing configuration, with some modifications on the outer network – that critically would not impact the contracts that are already signed – and which delivers substantially more capacity to the growth corridors than the current configuration. It is a simple, effective solution to the capacity constraints of the network in the medium term.

However, despite what some may think, the current or revised form of Cross River Rail is not the end of the story. Although the vacuum created by the absence of a rail strategy for Queensland allows CRR to be pushed forward without any long-term view, it is only the first phase of a complete transformation of the network and its operations. Although the rationale and the outcomes are described in the next sections, the key changes to be made are to allow Cross River Rail to expand to both the north and south of the current geographic area. Given that the project is in tunnel, the way to achieve this is through tunnel "stubs" which allow tunnels to be extended at a later date without impacting operations. These stubs would be located north of Roma Street underground station, and south of Park Road underground station.

For the absolute avoidance of doubt, there are three changes that need to be made to the scope of Cross River Rail immediately: the change to the northern connection, tunnel stubs at Roma Street, and tunnel stubs at Park Road. Even the changes to Northgate and Wooloowin do not need to be done immediately, and only need to be constructed once the demand from the north exceeds 24tph.

These three, minor changes are the most critical recommendation in this entire document. Without them, capacity across the network is effectively capped once CRR opens. All future development of the network depends on incorporating these changes – now.

Phase One Peak Hour



Maximum peak frequencies shown
Assumes outer network enhancements

Phase One Off-Peak Hour

Assumes outer network enhancements
Contra-peak service is greater than or equal to off-peak

Phase Two: The long tunnel

In much the same way that history provided the way to a better northern connection, a deeper dive into history provides the best outcome for the southern end of the project.

The 2011 version of Cross River Rail extended the tunnels beyond Park Road to Yeerongpilly, bringing the CRR tracks up just in time for empty services to run to Clapham. Not only did this provide the fastest alignment overall, but the issue described above – of capacity limitations and travel time impacts from having only one contra-peak track – were removed.

It is worth noting that this was not simply some default starting position given to the project team. The Inner City Rail Capacity Study (ICRCS), the forerunning pre-feasibility study, had three recommended options, all of which had tunnels ending at Fairfield[18]. The Cross River Rail project team assessed this location, including through community consultation, and decided that the portal would be best served by being located at Yeerongpilly. The reasons they gave primarily included the significant property impacts that would arise if the surface corridor had to be expanded between Fairfield and Clapham, and the significant benefits that the longer tunnel provided - fewer property impacts, better alignment, dedicated freight capacity - more than offset the slightly higher cost, estimated at $160m. To reiterate - the long tunnel option was never the default position, it was arrived at after a comprehensive investigation into numerous options and found to be the best outcome for the project overall.

Until the previous paragraph, the word 'freight' had not been mentioned. There is a good reason for this – no matter what, Cross River Rail in its current form will result in less capacity available for freight. Running additional services on the North Coast line, and an increased use of the dual gauge line between Dutton Park and Salisbury are detrimental to freight capacity. So too if there is any increased use of the Cleveland line, particularly in the off-peak or contra-peak periods. As such, there is very little that can be said or done surrounding the project with its current geographic scope. However, one of the great benefits of the original form of the project was the effect the extended tunnel had on freight capacity.

Currently, freight services are subjected to a notional curfew around the peak times of day. In particular, between Dutton Park and Salisbury, the three-track section is fully used by passenger services in the morning and afternoon peaks, meaning that freight trains are prohibited from operating. This is despite the fact that between the Port of Brisbane and Dutton Park, between Yeerongpilly and Corinda, and southbound from Salisbury on the interstate line there are dedicated freight tracks – effectively, the section between Salisbury and Dutton Park is the bottleneck on freight capacity. When the original Cross River Rail planned to send trains underground in this section, it freed up the dual gauge line to be solely used by freight services. This would have created a dedicated freight link extending from the Port to Acacia Ridge on the interstate line and Moolabin on the Tennyson branch. In the context of such national drivers such as trying to improve rail's share of freight and the Inland Rail project – itself connecting to Acacia Ridge, and would derive benefit from dedicated access to the Port – the ability to lift curfews and increase freight access is clearly a worthwhile endeavour.

Unfortunately, as alluded to earlier, the BaT project removed the long tunnel without any care or consideration of future requirements, and for whatever reason this was never reinstated. The business case of the revised 2017 version alludes to have undertaken some sort of assessment, but the intimation is clearly that the focus was on cost and not benefit[19].

18 Cross River Rail EIS, July 2011, Chapter 1 Introduction, page 1-5

19 Cross River Rail business case, August 2017, page 79

Fortunately, the current project can include future provision for this benefit through incorporating tunnel stubs in the vicinity of Park Road underground station. This would allow the tunnel to be extended without interrupting ongoing rail operations, effectively turning the current project into the first phase of an ongoing enhancement of the network. In planning for the long tunnel, there is no immediate reason to deviate from the original portal location of Yeerongpilly – the key element is to extend the Cross River Rail track pair to close proximity to Clapham yard, to enable the peak levels of service to be removed from the surface network as soon as possible.

Introducing the longer tunnel would change the way the network operates, most obviously due to the fact that services in the tunnel would no longer stop at stations between Park Road and Yeerongpilly. This necessitates services needing to operate between South Brisbane and – at least – Yeerongpilly, returning the connectivity through Park Road that exists today.

Considering the capacity that is available in this reconfigured network helps to guide how the service plan may work. We know that at day one of the revised CRR, there is still plenty of capacity heading north over the Merivale Bridge – only the Cleveland line is using the 24 or 28tph capacity of the Suburbans, and is most likely to use at best 10tph. It is also true that capacity through CRR is maximised when all services south of the portal – or, more specifically, where the four-track corridor ends – are run through the tunnel. Therefore, the highest capacity outcome would be to run all services south of the portal through CRR, and have the surface tracks catered for by services starting at Yeerongpilly station. The patronage data from 2018 shows that this is not a particularly high volume group of stations, so it is likely that 4tph would be sufficient, although there would be spare capacity to increase this frequency over time. These services would correspond to the trains previously turning back between Roma Street and Park Road, and without any particular requirement as to which service group they connected to – if services were turning back at Roma Street, it would be beneficial to extend these to Yeerongpilly to increase the coverage through the South Bank area.

This operating paradigm allows for a total of at least 28tph from south of Park Road (and more if it is considered desirable to increase the Yeerongpilly frequency), as well as improving the travel time for all passengers south of Yeerongpilly. Given that the day one configuration gave an overall increase of 16tph, or 80%, from the Gold Coast line, the longer tunnel further increases the capacity to more than 20tph, or 100% compared to the ETCS scenario.

There would be no change in frequencies from the north in the long tunnel configuration.

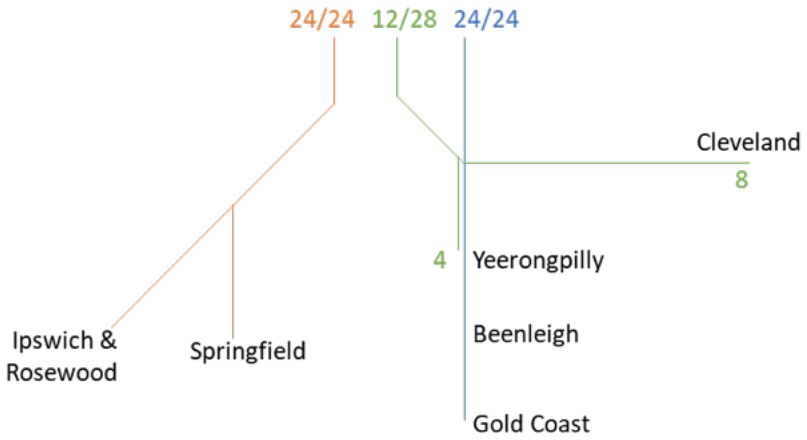


Figure 15: Indicative operating plan for the inception of the long tunnel paradigm. Note that it would be possible to increase the Yeerongpilly frequency by simply extending the services terminating in South Brisbane and South Bank.

The only potential drawback from this arrangement is the reintroduction of the crossing conflict at Park Road, whereby the outbound services to Yeerongpilly need to cross the inbound services from Cleveland. However, the frequency of the cross is relatively low – in this example, 4tph outbound against 8tph inbound in the morning peak – and should not pose a significant problem, particularly if Park Road junction is reconfigured to minimise the impact of the crossing moves. To give context, this is approximately the level of scheduled passenger conflicts in the current timetable at Park Road, but with a lower overall utilisation allowing for more spacing to accommodate the crossings.

The long tunnel option would be a prerequisite for developing the passenger line towards Flagstone and Beaudesert from Salisbury. Through the use of the paths through South Brisbane, the Yeerongpilly starters could be extended to commence service on the Flagstone line. The development of the line would need to incorporate track amplification between Yeerongpilly and Salisbury to allow segregation of all-stations trains – those via South Brisbane – and express trains – those into the tunnel. Through this mechanism, services from south of Salisbury would see further improvements in travel time from increased amounts of express running, while the overall capacity of the system would increase due to the additional track capacity and the reapportionment of services between the CRR and Suburbans sectors. A notional split may see 24tph from south of Salisbury through CRR, and perhaps another 10tph from the Flagstone branch via the Suburbans. At this level of service, there would be a total of 34tph from south of Park Road, representing a 130% increase in capacity when compared to the ETCS2 scenario, and a 90% increase compared to the current version of CRR (once 9-car trains are considered).

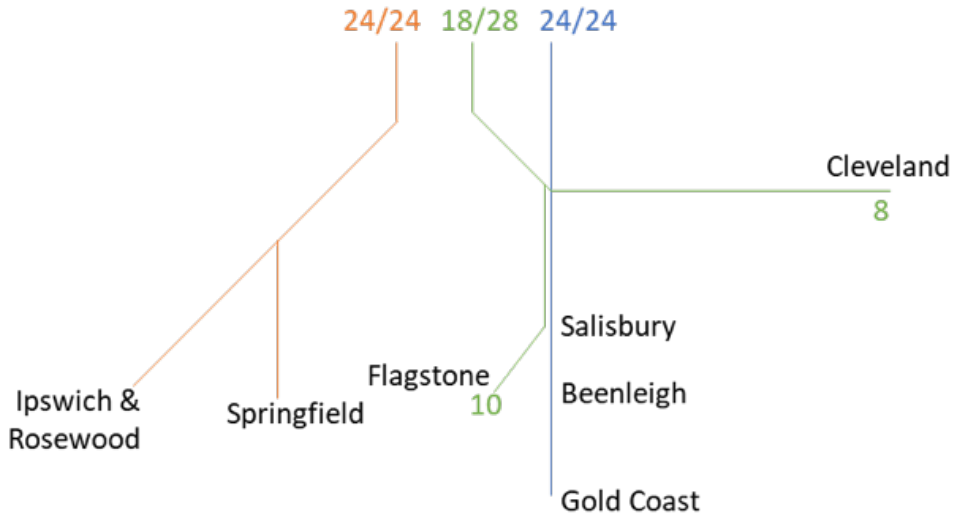


Figure 16: The natural extension of the longer tunnel paradigm to accommodate the Flagstone/Beaudesert branch. Through this, travel times would be improved for Gold Coast/CRR services, running express from Salisbury.

With this operating paradigm in place, the conflict at Park Road would be further increased, however the worst conflicts would now be in the afternoon peak period. 10tph would head south, crossing potentially 6tph inbound from the Cleveland line. Given that the 10tph to Flagstone could conceivably be joined by 10tph to Cleveland, the scope for cascading delays would be amplified. This is all the more reason to reconfigure Park Road junction to allow for platforms 1 and 2 to be outbound only for the Cleveland line and Flagstone line, respectively. This would mean that any Flagstone line train being held at the crossing would not delay the following service outbound to Cleveland, helping to minimise the impact of the delays.

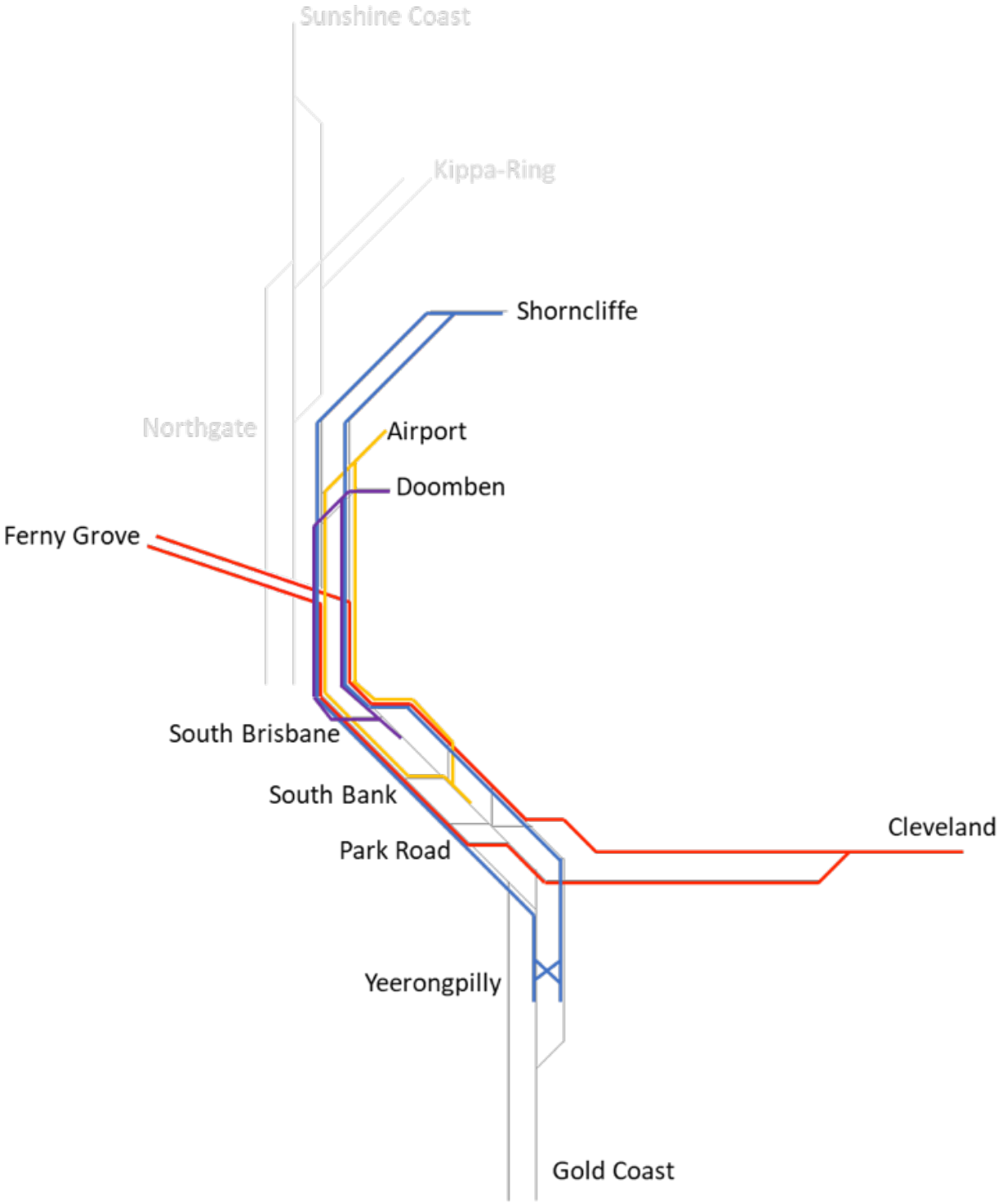


Figure 17: Example of the Suburban operations in the long tunnel scenario. The reconfiguration of Park Road means that only the outbound Yeerongpilly services (on platform 2 at Park Road) cross the inbound Cleveland line services (platform 3). Crucially, the outbound Cleveland line services (platform 1) are not impacted by any crossing delay, meaning there are no flow-on effects. A similar reasoning and operation holds in this area when extended to Flagstone/Salisbury.

Clapham yard, Yeerongpilly, and Salisbury to Flagstone

So far, the rail operations have been relatively straightforward, mostly using existing surface track layouts (with the exception of some modifications South Brisbane – Park Road), and have been relatively self-contained – the Suburbans have never ventured further south than the tunnel portal. The extension of the network towards Flagstone from Salisbury introduces complexity in three areas – how Clapham should be arranged, how the corridor between Yeerongpilly and Salisbury should be laid out, and how the junction at Salisbury should operate. Ultimately, all three hinge upon the design and function of Clapham both at day one and in the long term.

At day one, Clapham would be used to supply trains to/from the North Coast line, providing stabling during the daytime in much the same way as Mayne does. There would also be some limited overnight stabling, but the primary purpose is to accommodate the surplus of trains from the north during the interpeak period. This means trains need to enter during and after the morning peak, and leave before and during the evening peak. To be efficient, the design must accommodate yard movements that do not result in crossing conflicts with the running lines – that is, trains must be able to get in and out of the yard without crossing revenue services in opposing directions. It is clear that Cross River Rail's current design is attempting to achieve this, with running tracks around the yard and a new platform at Moorooka located on the dual gauge track and separated by some distance from the existing two platforms, so there can be no dissent that conflict-free access and egress is a crucial objective.

Recall from the earlier discussion that the AM peak operations will see two tracks – the dual gauge and the middle road – used for inbound services, allowing the operation of express and all-stations trains, while the remaining track – the easternmost track – will be used for outbound services. To allow for empty trains from the city to enter without crossing peak trains from the south, the yard should be placed between the middle track and the easternmost track. However, in the PM peak, the operations are changed, with both the middle and easternmost track used in the outbound direction, while the dual gauge track is used for inbound services. To supply empty trains to the city for the start of northbound peak services, the yard must be placed between the dual gauge and middle tracks – something which is clearly incompatible with the outcome from the AM peak operations. Using three tracks around Clapham, it is not possible to provide conflict-free access to Clapham yard. It would, however, be possible to achieve this outcome with an additional fourth track in the area.

By splitting the middle track into two around the yard area, and operating each split only for part of the day, it would be possible to avoid crossing conflicts. In the AM peak, the two westernmost tracks (on the western side of the yard) would be used for inbound services, while one of the two easternmost tracks would take the outbound traffic and the other would remain empty. In the PM peak, the two easternmost tracks would cater for outbound services, while one of the westernmost tracks would be for inbound services and the other empty. It appears that the current Cross River Rail design could have reached the same conclusion, with an additional 'dual gauge loop' line on the western side of the yard, and sufficient track arrangements to allow the operation described here. Notably, it includes only one platform on the western side, so that any services on the dual gauge loop (those using the dual gauge elsewhere in the AM peak) could not stop at Moorooka.

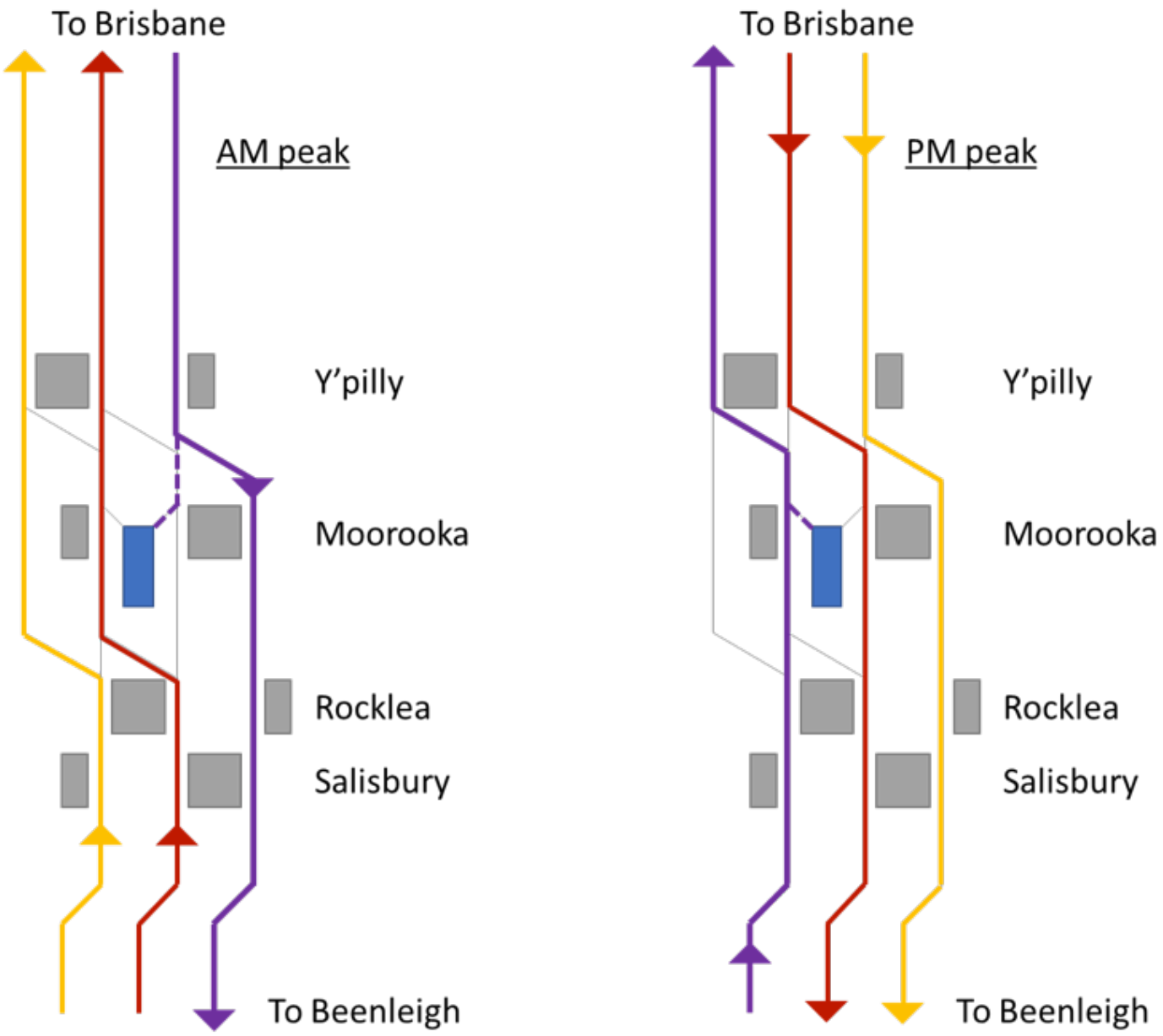


Figure 18: AM and PM train flows through Clapham with the CRR layout, providing conflict-free access to Clapham yard.

The Cross River Rail design does allow for appropriate operations at day one, although it does result in an unusual station layout at Moorooka. The effect for passengers is that the inbound platform will be located approximately 125m away from the existing platforms – which would become the outbound platforms in this operational paradigm – at their closest point. It is hard to determine, especially without a station plan, whether this is a significant impost or not. The distance to access the station (given that most of the residential catchment is on the eastern side) is increased by a minimum of 125m for inbound traffic, which is not ideal but neither is it a terrible outcome. Given the yard tracks would be in between the two platforms, and the yard is a secure area, there would necessarily be a lengthy overpass or underpass to allow connectivity, neither of which may encourage the feeling of safety for users late at night. The layout may also prove more difficult or costly to staff, as it would appear that a single staff member would not reasonably be expected to manage both platforms, as they may at a station with platforms adjacent to each other.

However, the geography of the area makes it challenging to envisage an alternative arrangement that would provide a 'standard' station layout while still avoiding crossing conflicts. Assuming all tracks were on the eastern side of the yard – making use of the existing station – the only means that this could be achieved would be to raise (and then lower) both the dual gauge and middle roads between Moorooka and Yeerongpilly. This would then allow access from the easternmost track underneath both in the AM peak, and a direct connection to the dual gauge would allow egress in the PM peak. However, given the dual gauge would necessarily be elevated at this point, this would require a fourth track until the dual gauge was back at ground level. There is approximately 800m of relatively straight track from the northern end of the Moorooka platforms where this arrangement could conceivably be achieved, and the corridor already has four tracks. However, it is a complicated area with a crossing of Moolabin Creek, the rail welding plant, and the tie-in to the Tennyson loop, and the raising and lowering of what would become the two middle tracks would be extremely challenging to achieve.

Of course, it is not sufficient for the Clapham arrangement to work at day one, but at every phase in the project's development. Extending from the day one arrangement to the long tunnel, under the operating assumptions we have proposed, would see Clapham operate in largely the same way. The two tracks out of the tunnel would need to be arranged in such a way as to allow the four-track section to be used in the same way as at day one, while having Yeerongpilly offset to allow the surface trains to be turned back, keeping the two sets of corridors segregated for passenger movements. The original CRR design had the southern portal north of Yeerongpilly station, with the four platforms all at grade[20]. In order for the above conditions to be met, the two tunnel tracks must be to one side of the corridor, while the Suburban tracks to Yeerongpilly would be effectively truncated at the station. At this point, it would also be possible to free the dual gauge line for exclusive use by freight services between the Port of Brisbane and Yeerongpilly. With the addition of a dedicated track from Yeerongpilly to Salisbury, it would be possible to extend this freight corridor to the interstate line, effectively removing the curfew that is currently in place.

20 Cross River Rail EIS, July 2011, Chapter 4 Project Description, page 4-35

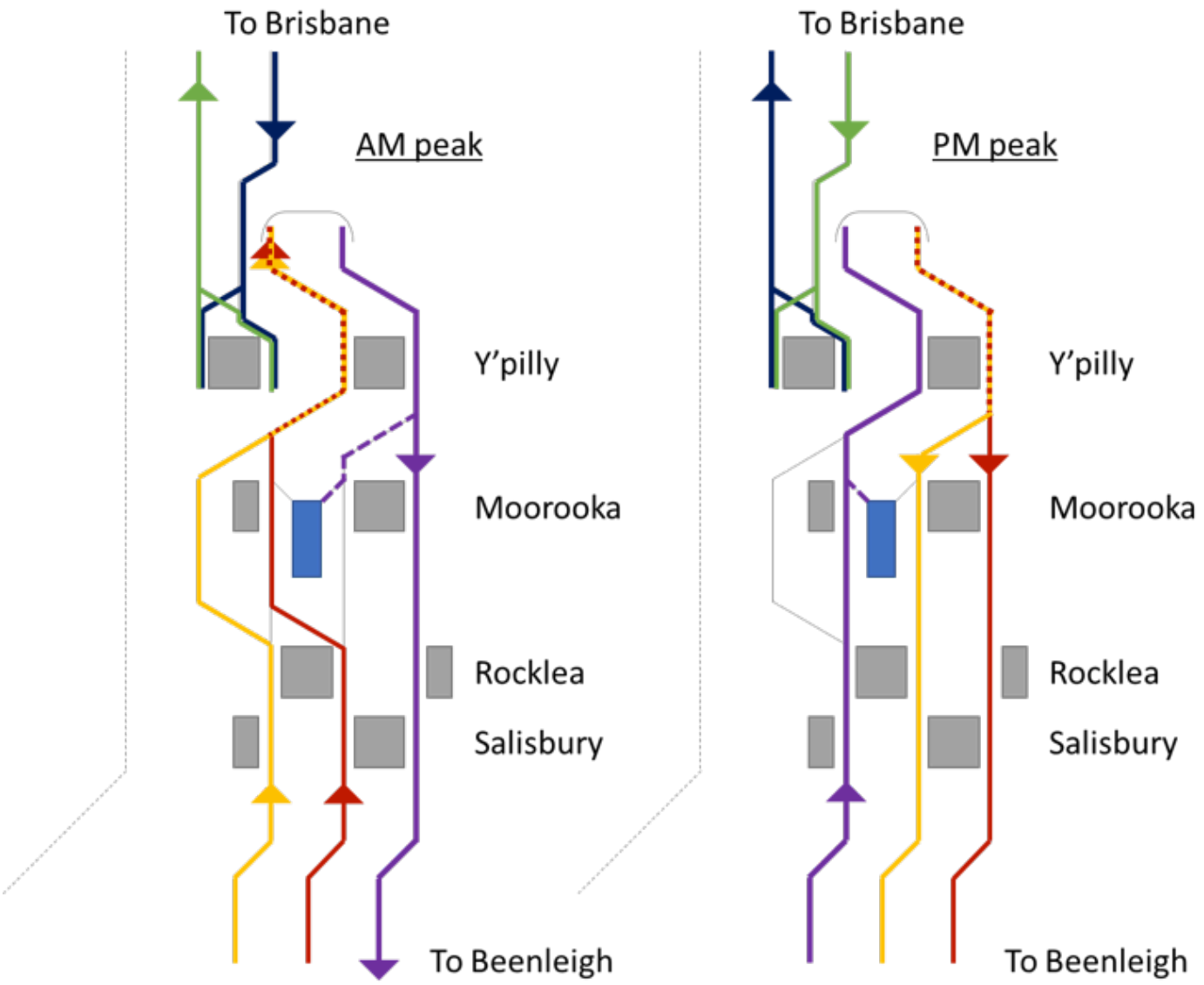


Figure 19: The layout for the long tunnel scenario, keeping the Suburbans completely segregated and continuing to use the Clapham layout. The ability to keep a dedicated freight track separate is shown with the dashed line.

The complexity is increased in the case when the spur towards Flagstone is constructed. As we have determined earlier, the operational assumption is that the surface trains would be extended to service the new spur line. At this point, we now have the surface/Suburbans services operating in the same space as the CRR services between Yeerongpilly and Salisbury. It is clear that four operational tracks in this area are required for the passenger services – and, as mentioned above, at least a fifth one for freight – in order to cater for the frequency and diversity of stopping patterns in this area. Given that the two groups of services now run past Clapham, it is important to determine both how Clapham is used and consequently the arrangement of tracks in its vicinity.

For various reasons, it is appropriate to continue to use Clapham for the Cross River Rail services – the yard would be configured for 9-car operations (which cannot be used on the surface tracks through the CBD), the CRR sector has the greatest need for interpeak stabling, and it will have been specialised to cater for NGR units. Furthermore, there would appear to be more opportunities for new stabling yards along the interstate line – with a mix of light industry and undeveloped land – than along the Beenleigh line, should it be determined beneficial to provide a stabling yard for the surface trains in this area. As such, the access and egress for Clapham should be preserved for CRR services, free of crossing conflicts with the Suburban trains. Given that CRR will now be on two tracks through this area, this leads the arrangement to have

the running tracks either side of the yard, meaning that the middle two tracks from day one would be dedicated to CRR. This then defines the operations in the area between Yeerongpilly and Salisbury, with the all-stations (Suburban) trains on the outer tracks, and the express (CRR) trains on the inner tracks.

However, this results in a divergence in requirements between the opening of the long tunnel and the Flagstone extension. The latter required the CRR tracks to be offset (to one side) at Yeerongpilly, while the former requires them to be between the Suburban tracks in the same area. This necessitates that changes to the operating tracks are made between the two phases – most likely as part of the Flagstone spur project itself. In effect, a track slew or realignment is required at Yeerongpilly, taking one of the Suburban tracks to the outside of the CRR tracks. To minimise the disruption, this should be planned from day one to ensure that the station layout is appropriate – including the provision of long platforms for 9-car trains – noting that it would be preferable to keep the station the same and simply reorder the tracks that are using it. In this manner, the CRR tracks could go from using platforms 3 and 4 at Yeerongpilly when the long

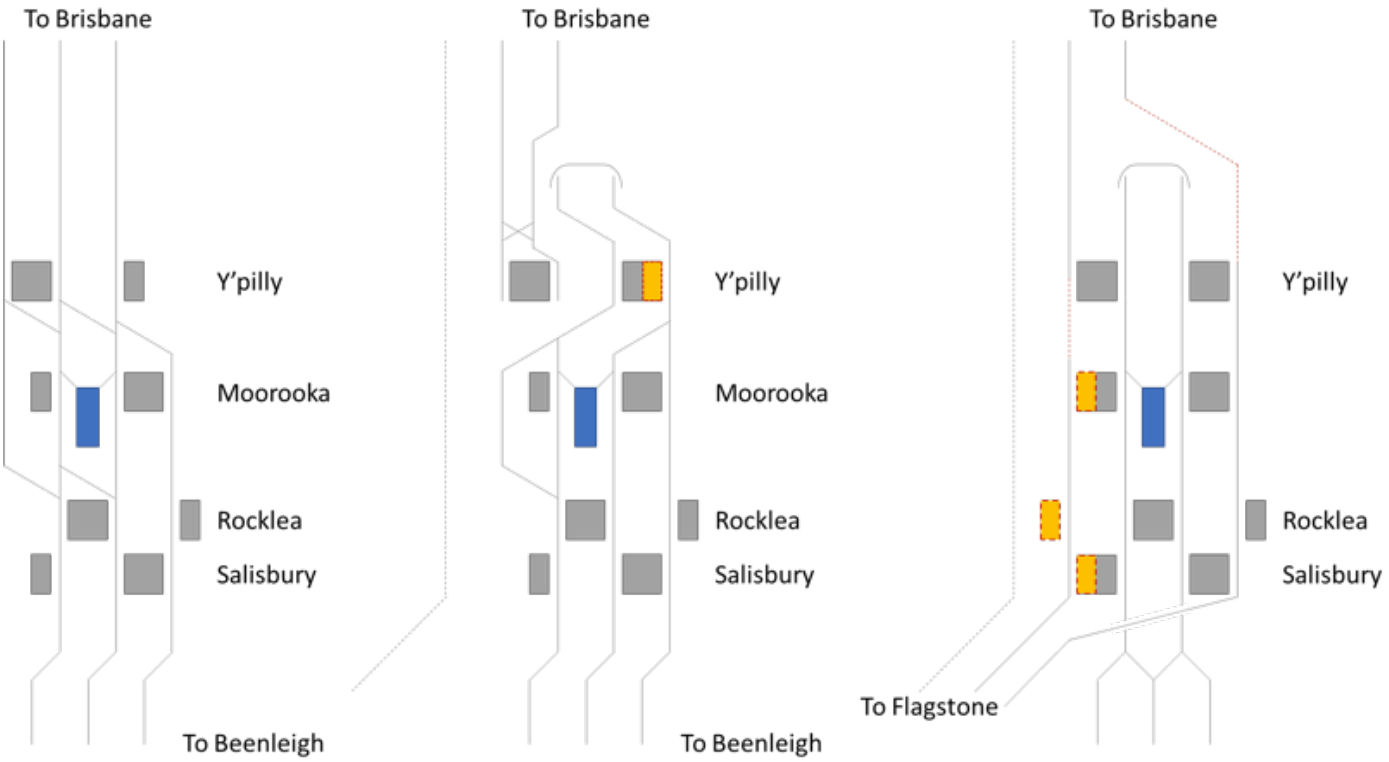


Figure 20: The track arrangement to keep operations segregated and retain conflict-free access for Clapham requires some element of track skewing as the strategy develops, but disruption can be minimised with appropriate transition planning.

tunnel is opened, to using platforms 2 and 3 when the extension towards Flagstone is developed. Finally, with the arrangements at Yeerongpilly and Clapham resolved, it is crucial to plan for the junction at Salisbury. Given that we already know the track arrangements through from Yeerongpilly to Salisbury – CRR inside, Suburbans outside – the junction is relatively straightforward. The outbound Suburban track (the easternmost) will need to be grade separated through to the interstate line, flying over the CRR/Beenleigh line tracks. The inbound Suburban would be at grade, as would the freight track, meaning that there are relatively few major considerations beyond the single flyover. South of the junction, the two CRR tracks would be split into the three tracks continuing to Kuraby, allowing the different stopping patterns to be operated.

One opportunity presented by the track arrangement described above is that the tracks for each of the two sectors are running in the same direction on adjacent tracks. This means that, for example, both Yeerongpilly and Salisbury – where it would be expected that the CRR trains would stop – could be arranged in a double island platform layout. This would then allow passengers travelling in the same direction – say, someone coming from Flagstone on the Suburbans but needing to travel to Albert St via CRR – to transfer across platform without need to use vertical transport. Not only does this reduce the frequency of stair-related injuries, it also provides more access for disabled passengers who would not need to rely on lifts. Given that the primary objective of passenger rail is to make it easier for people to travel, this is a very good outcome.

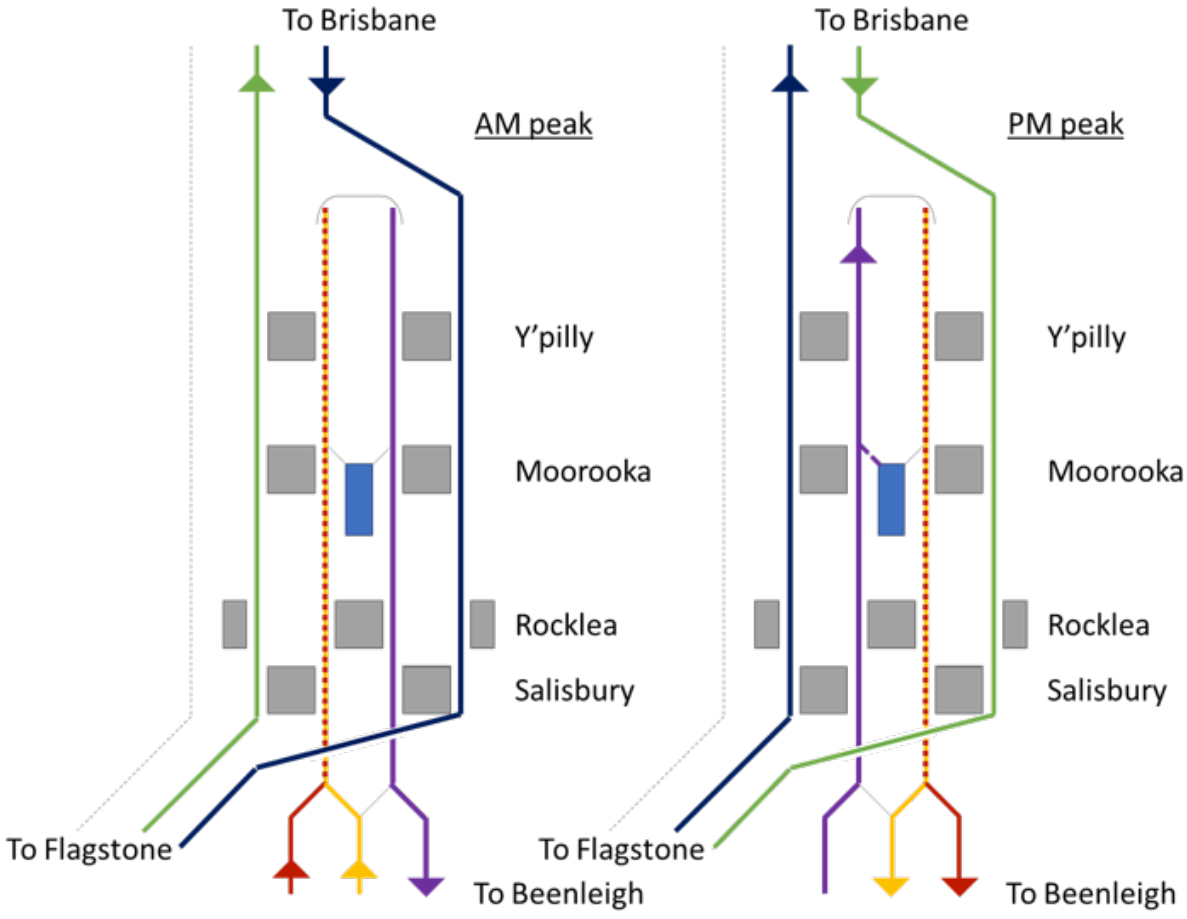


Figure 21: The ultimate configuration between Yeerongpilly and Salisbury sees the centre tracks operated by express services, and the outside tracks by all-stations services towards Flagstone. Clapham yard retains conflict free access, dedicated to Cross River Rail services.

At this point, the entire form of Cross River Rail through to the south of the city is defined, and there is no more to be done north of Salisbury. The two track CRR tunnel continues through to Yeerongpilly, the access to Clapham and the separation of the Suburban sector is facilitated through the four-track arrangement to Salisbury, and the junction at Salisbury is defined. Furthermore, the access for freight through to the Port of Brisbane is provided for the dedicated dual gauge line between Dutton Park and Salisbury, completely removing the curfew for these services. The operating plans mean that there is no need for additional tracks in this area, and the service provision can be maintained without any further infrastructure works. Further south of Salisbury, the opportunity to provide further triplication or quadruplication is present, with the ability to improve travel times, however this is not strictly related to Cross River Rail (but is discussed in the "Outer network enhancements" chapter). From the perspective of the project, this completes the scope of transformation in the south.

Phase Two Peak Hour

Maximum peak frequencies shown
Assumes outer network enhancements

Phase Two Off-Peak Hour

Assumes outer network enhancements
Contra-peak service is greater than or equal to off-peak

Phase Three: The northern expansion

Once the Flagstone extension in the south has been delivered, and Cross River Rail is complete in the south, it is expected that the capacity from the north of the city will again be reaching its limit. In our revised Cross River Rail project, recall that we can supply up to 15 x 9-car trains per hour through CRR from Caboolture and the Sunshine Coast, and a further 15 x 6-car trains per hour through the Mains from Kippa-Ring, with the constrained section between Mayne and Northgate operating at 30tph. Of course, these corridors can each take up to 24tph, so the constrained section is limiting the capacity of the network by up to 18tph. In order to make the best use of the capacity available, the constrained section must be relieved.

While there are probably several ways in which this could be achieved, once again there is already a significant amount of pre-existing planning which provides a reasonable way forward – the Trouts Road or Northwest Transport Corridor (TRC). This has been considered at length in the original Cross River Rail planning, and in CSEQ 2031, so the concept is certainly not a new one. And again, there is no need to reinvent the wheel, as a form of the TRC provides an excellent and logical extension to the CRR sector to increase the overall capacity, catchment, and attractiveness of the network.

In its simplest form, the TRC commences from the underground platforms at Roma Street – through the provision of tunnel stubs during the construction of CRR, as was planned in the 2011 CRR design[21] – and continues north, predominantly via the Trouts Road reserved corridor, to connect to the North Coast line around Strathpine. In doing so, it would provide a significantly shorter route between Strathpine and Roma Street, reducing rail length from around 23km to 18.5km, while at the same time allowing higher operating speeds due to the much straighter alignment when compared to the existing corridor. For these reasons it would be beneficial for the longer distance trains to use this corridor, which aligns well to the operating plan as these are the ones that would use – and would continue to use – CRR. For the interests of maximising the travel time savings that result from the new corridor, it would be prudent to try to minimise the number of new stations it contains (to avoid slowing services down by stopping) while maintaining a balance of increasing the coverage of the network. While the nature and number of stations is largely inconsequential to the outcomes of the Minerva Plan, it is apparent that one station would be located under the Ferny Grove line, most likely at Enoggera station. Not only would this provide increased connectivity, it would help to improve travel times from the Ferny Grove line through interchanging (as Enoggera could then be 2-3 stops away from Albert Street on a fast alignment), as well as reducing the demand on the Ferny Grove line through the Suburbans. Other stations could be provided in the vicinity of Ashgrove, and perhaps at one or both of Hamilton Road or Albany Creek Road, but again this is not crucial to this plan. The key, whatever is decided, is that there is the ability to have an efficient and effective interchange to local buses to help integrate the new station in the surrounding suburbs.

More crucial is what the TRC would do for the capacity of the inner city, namely the CRR and Mains corridors. With the diversion of CRR-bound traffic, the constrained section between the Northgate and Mayne would be relieved, and up to 24tph could be operated through the Mains. Similarly, the connection of the CRR tracks to the TRC would allow for the maximum throughput of 24tph – at 9-car train length – to be achieved. However, there are several caveats and considerations to be made with this operating paradigm.

21 Cross River Rail EIS, July 2011, Chapter 4, Pages 4-42/43

The existing section between Petrie and Strathpine is effectively a three-track corridor (acknowledging that there are four tracks over the North Pine River), and therefore would represent a constraint with the delivery of the TRC. To fully separate the Mains and CRR corridors, Strathpine to Petrie would need to be expanded to a four-track corridor. For reasons that will be explained later, this corridor would operate as an 'Up-Up-Down-Down' corridor – much the same as Yeerongpilly to Salisbury – and similarly with a single-track flyover at Salisbury to connect the Up North Coast line services to the TRC (and noting that Petrie was already correctly set up with a flyover to allow conflict-free movements).

In delivering this configuration, everything north of Petrie – Caboolture, Nambour, and potentially Caloundra services – would operate via the TRC, stopping only at Petrie and Strathpine to allow for interchange. Kippa-Ring services would continue to operate via Northgate to the inner-city Mains as they currently do. There is also an opportunity to run Kippa-Ring services express in the peak periods, making use of the third track between Strathpine and Northgate. This would allow faster travel times for Kippa-Ring services, as they could then conceivably have as few as seven stops between Petrie and Central in the peaks. Regardless, both of these service groups could now conceivably operate up to 24tph each.

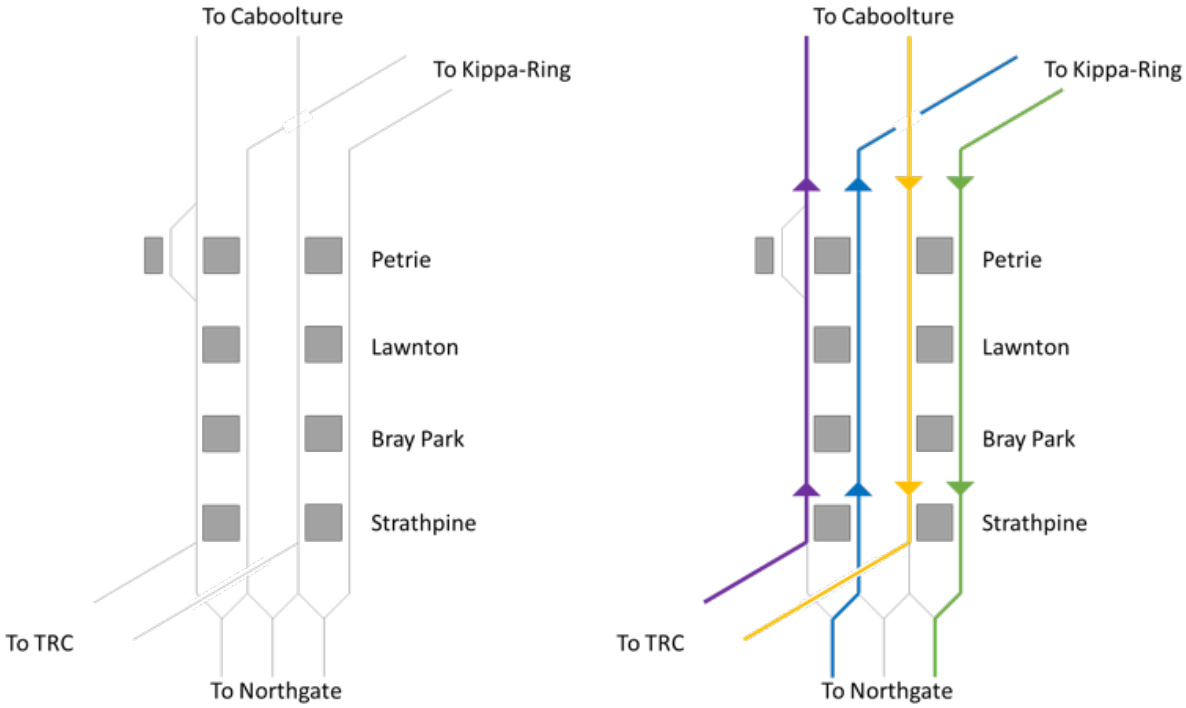


Figure 22: Track layout and train flows between Petrie and Strathpine to allow conflict-free operation, and cross platform transfers between sectors, once the Trouts Road Corridor is delivered.

The first reason why the corridor is best operated as 'Up-Up-Down-Down' is to do with redundancy. If one track is out of order, it is easier to merge trains onto another track without having to cross traffic coming the other direction. This helps to provide flexibility in the operation while minimising the flow-on effect of delays. With an island platform configuration (as would be expected in this corridor) it also means that passengers do not have to change platforms in the event of disruption, with each island platform catering for services in one direction only.

The other – and more critical – reason is to do with the other users of the network. Unlike the southern section between Park Road and Salisbury where the objective was to segregate the freight network, it seems unlikely that segregation could occur to the same extent on the northern side of the city. As such, it is expected that both freight and long-distance passenger services would continue to share the operation of the North Coast Line. The introduction of the TRC means that freight travelling from Brisbane to the north would now interact with two distinct operational sectors – the Mains between Exhibition and Strathpine,

the CRR/TRC sector north of Petrie, and a need to switch between the two between Strathpine and Petrie. While this requires an element of timetable harmonisation – to ensure that the paths on one sector align with those on the other – for the same reasons as providing redundancy, it is far more advantageous to be able to schedule moves across sectors without having to cross counter-directional traffic. The configuration described here allows these movements to occur completely without conflict, increasing both capacity and reliability.

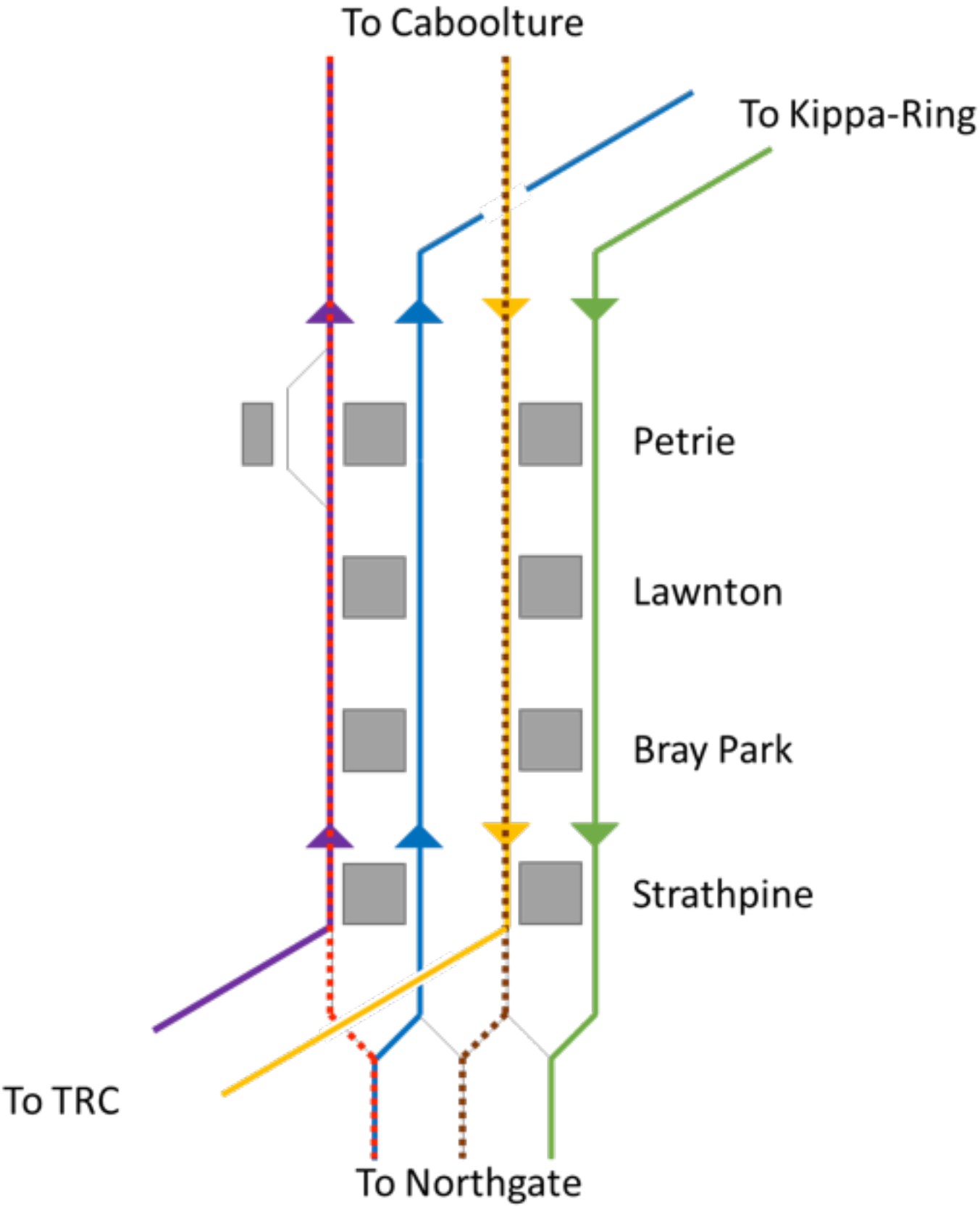


Figure 23: Notional freight and long-distance passenger movements through the common section, able to be operated between sectors without conflict.

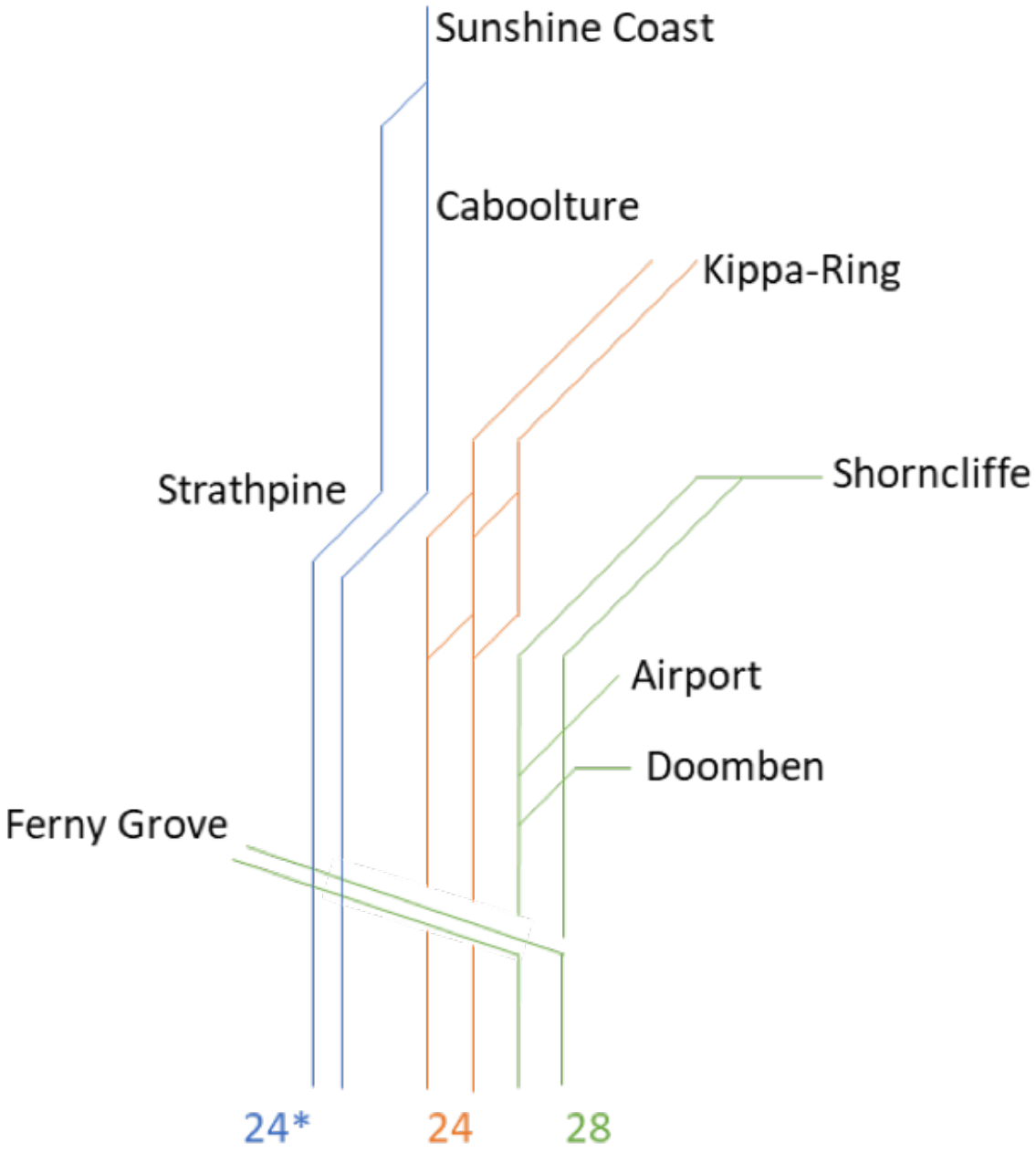


Figure 24: A simplified (NB: not geographically accurate) representation of the new sectorisation. From the north, each of the TRC/CRR and Mains corridors can take 24tph (with the former operating 9-car trains), while the Suburbans can operate 28tph.

One immediate outlier to this otherwise neat arrangement is the Exhibition station. Although it is currently an event station only, with the advent of CRR it would become a regular addition to the network, with notionally all CRR trains stopping there – i.e. between 15 and 24tph during the peaks (depending on direction). With the TRC and the subsequent diversion of the longer-distance NCL services, there is no service group that would cater for the Exhibition station as a matter of normal operation. It is potentially possible that the TRC could commence from north of Exhibition station, although this would bring several problems including a significant increase in corridor length and the likely omission of an interchange with the Ferny Grove line. As simply disconnecting the station is not an acceptable pathway, it is therefore necessary to find some method of servicing the station in this new paradigm.

The most obvious route to servicing Exhibition involves a shuttle, which could operate on the surface only – connecting to Roma Street only in one of the side platforms – or as an extension of one of the services using CRR. Given the level of (empty) service through this area in the peak periods, the service would almost certainly need to be formed by trains to/from Mayne Yard if the CRR approach was taken,

as the level of crossing conflicts would otherwise be too severe (it would be possible to avoid these if the surface shuttle was adopted). In many ways, the surface shuttle is the most efficient and 'clean' method of maintaining service, albeit one that does not provide much in the way of network expansion or integration. At the very least, it is a method of continuation in the new paradigm.

If a more progressive and expansive view were taken, the operations needed to service Exhibition could be further extended to improve connectivity and capacity on the network. We have already concluded that the section between Northgate and Mayne would have a capacity of 30tph, which is what was being used before the TRC was delivered. Given that the flow of services on the Mains in this section (notionally trains from Kippa-Ring) would enter the inner-city Mains, which have a capacity of 24tph, there would be latent capacity available on this section. Given the Airport line operates 4tph at maximum, due to its single-track arrangement, it would seem the prime candidate to reroute via the Mains and then to Exhibition and Cross River Rail. Building a flyover at this location would remove the grade crossing on the Suburbans, and the northern connection at Mayne (in the revised CRR) has already provided for conflict-free merging between the CRR tracks and the Mains. In addition to continuing to provide service for Exhibition Station, this extension would simplify the operation of the Suburbans, connect the airport directly to the 'downtown' station of Albert Street, and reinstate the connection between Brisbane Airport and the Gold Coast if desired, and at the very least allow for same-platform connections to Gold Coast trains at Roma Street. While this arrangement would have no effect on the capacity provided to the Kippa-Ring line (and potentially Strathpine, as described above), it would use 4tph of the 24tph in the CRR/TRC sector. On balance, given the connectivity outcomes, it would appear to be a worthwhile use of capacity.

If the Airport services were rerouted via CRR, this would free up space on the Suburban lines, as well as removing the current crossing conflict. Continuing a bold network change, if the Doomben services were truncated at Eagle Junction, this would remove the final flat junction on the Suburban lines, and allow the 28tph capacity of the inner city Suburbans to be split between Shorncliffe and Ferny Grove, with the possibility of a 14tph (or an almost 4 minute frequency, an effective 'metrofication') on both.

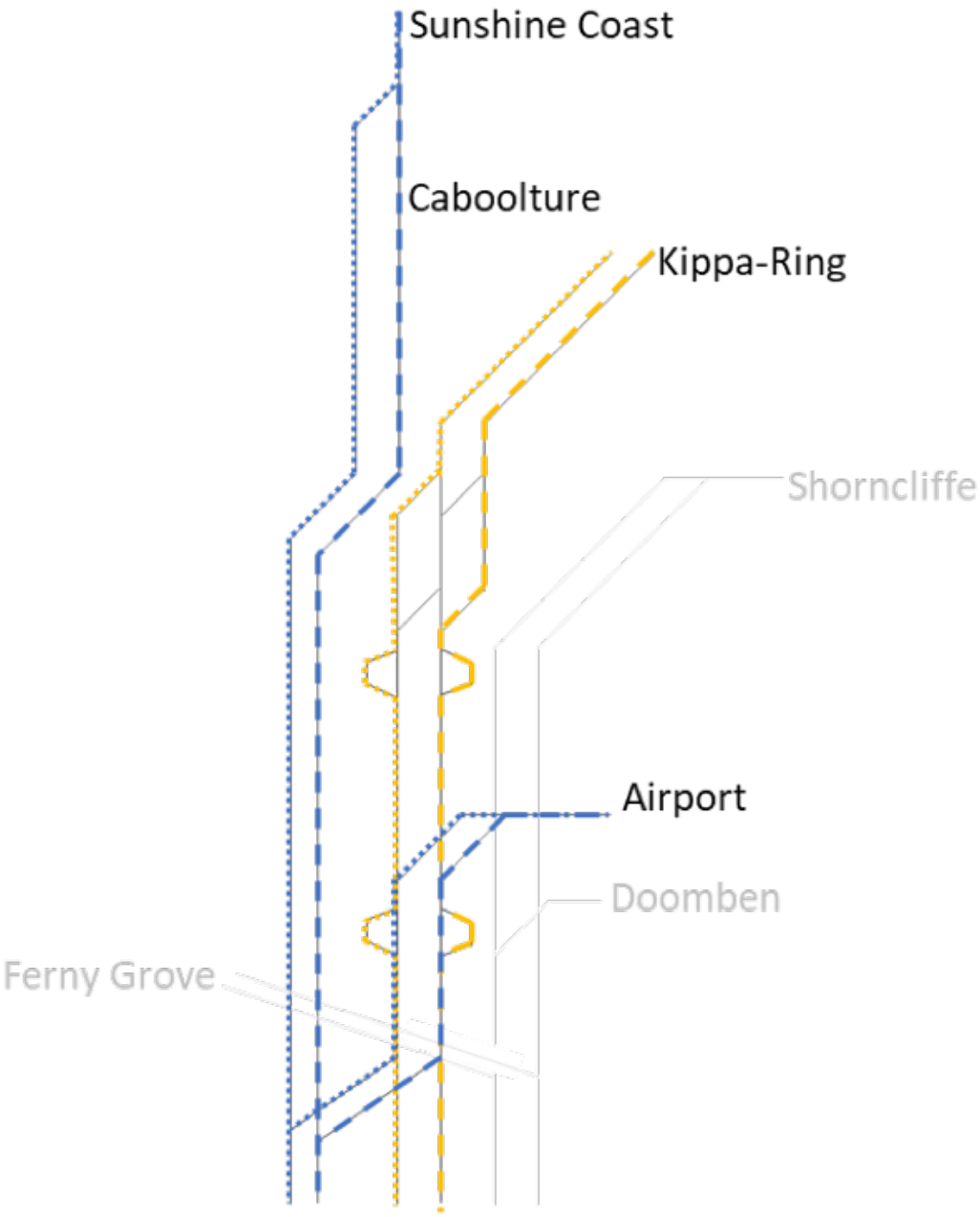


Figure 25: Reconfiguration of Airport Junction sees the Airport line move to Cross River Rail via Exhibition, using the grade separation in Mayne and the dual platforms at Wooloowin to operate efficiently.

With this sequence of events, the capacity through the existing inner-city corridors and CRR is exhausted. From the north, this now provides 24 x 9-car capacity (with 20tph from north of Petrie), 24tph from Kippa-Ring, and 28tph for Ferny Grove and Shorncliffe. This represents a total of the equivalent of 88 x 6-cars of capacity from the north, which is exactly double the current capacity.

At this point, the capacity from the North Coast Line is at its maximum through the Cross River Rail configuration. There is no scope to increase the capacity north of Northgate without the development of entirely new track pairs the entirety of the route. Given that this would not be practical within the existing corridors, and would provide new catchment if the additional track pairs were to be provided in the existing corridors, this necessitates that any further development would be in the form of standalone lines – such as new metro lines. Given that these would be independent, it stands that at this point the North Coast Line has reach operational maturity and would not be developed further. At this point, Cross River Rail, and all the network change that it facilitates, has reached its conclusion.

A grim forecast

With the proposed development of the TRC, expanding the capacity from north of Strathpine to notionally 48tph, the question may be raised as to how important the recommended reconfiguration of the northern connection is during the construction of CRR – even if it increases the capacity from the north from 24tph to 30tph, surely this is superseded by the capacity released by the TRC?

Unfortunately, the problems with the current design's northern connection become even more serious in the context of the TRC. Let us consider the scenario whereby CRR is built as currently designed, and a connection the TRC is somehow able to be provided. In this case, the Mains from north of Mayne are feeding into CRR via Exhibition via the realignment of the tracks in the current northern connection. However, the TRC is also feeding into CRR, meaning that the total combined capacity of the TRC and the Mains north of Northgate is only 24tph. This means that not only would service provision never increase above 24tph – again, the same as that provided by the current network with ETCS2 – but the TRC would be severely capped in terms of its capacity, potentially only operating 12tph.

The counterargument to this is that the tracks could be realigned to allow the Kippa-Ring trains to travel via the inner-city Mains once again. While this is true, the logical sequencing would likely see the inner-city corridors return to their current configuration – Kippa-Ring via the Mains, and all of Shorncliffe, Airport, Doomben, and Ferny Grove via the Suburbans – but with the added complication of substantial track rework around Mayne. The scope of this track reworking – including the realignment of running lines to ensure that the stabling yards service the sectors they need to – would require lengthy shutdowns on the network once again.

All of this limitation and impost could be avoided by simply designing the northern connection properly now, ensuring higher capacity in both the immediate future and in the long term.

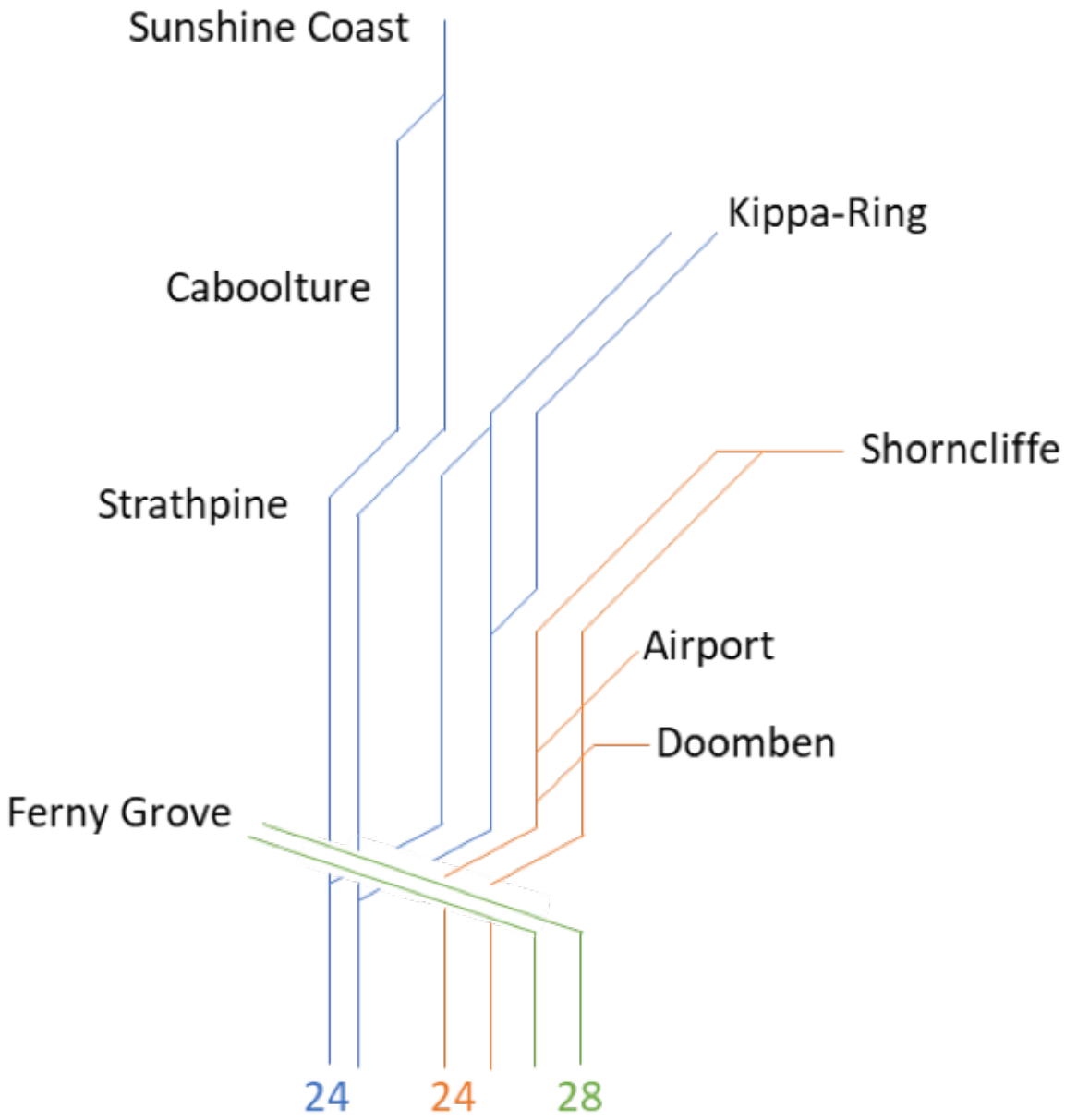
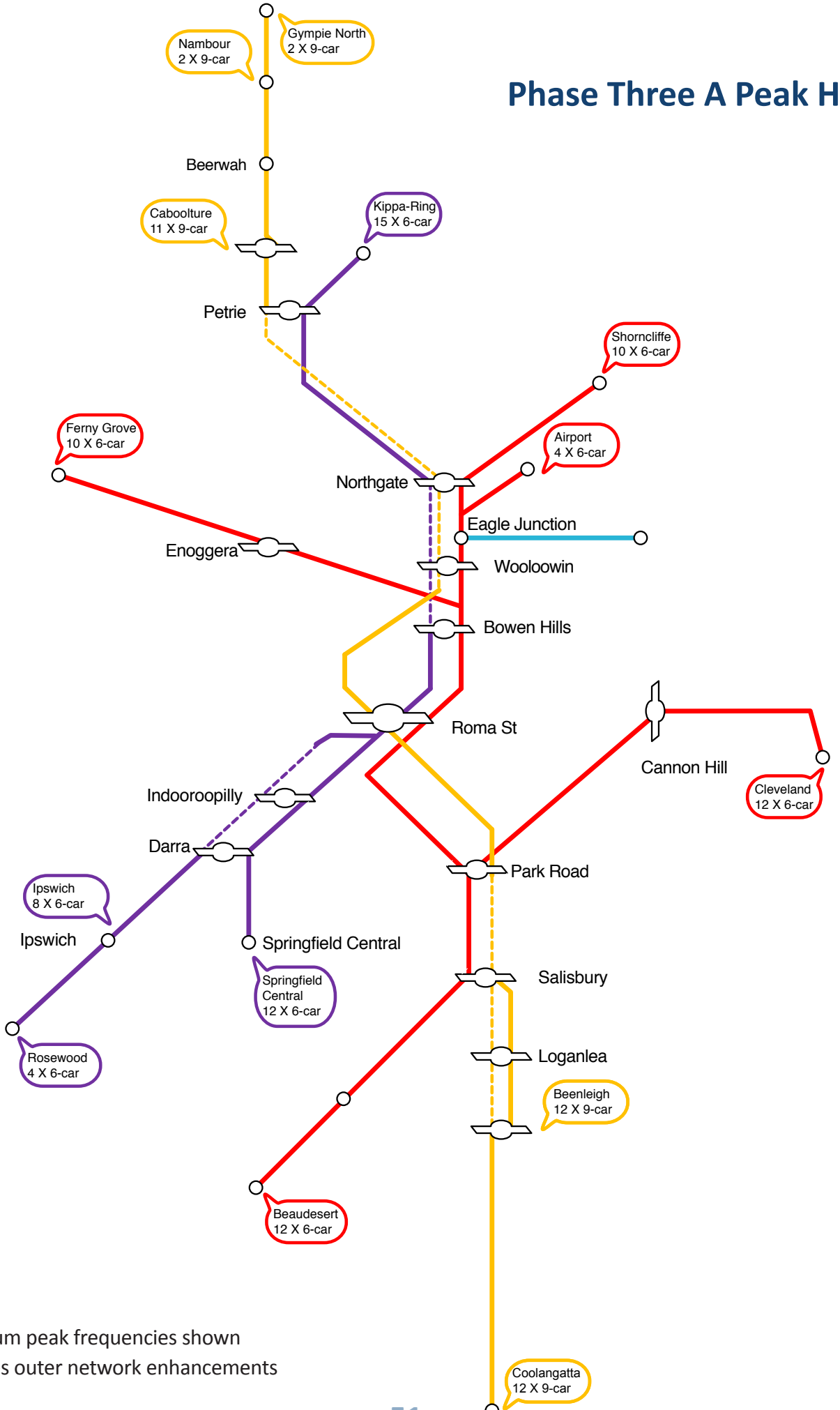


Figure 26: The extension of the TRC on the current infrastructure still results in the same capacity limitations north of Northgate, and an underutilisation of the TRC corridor.

Phase Three A Peak Hour



Maximum peak frequencies shown
Assumes outer network enhancements

Phase Three A Off-Peak Hour

Assumes outer network enhancements
Contra-peak service is greater than or equal to off-peak

Phase Three B Peak Hour

Maximum peak frequencies shown
Assumes outer network enhancements

Phase Three B Off-Peak Hour

Assumes outer network enhancements
Contra-peak service is greater than or equal to off-peak

Phase Four: Beyond Cross River Rail

While this document has, so far, focussed on fixing and extending the possibilities with Cross River Rail, there are of course immediate issues beyond Cross River Rail and its expanse that should be addressed in a future state. What is presented here describes the issues, and potential forms of the solution, but by no means should be considered final. With any of these types of network expansions, concept optimisation and improvement should be undertaken in the calibre of the Melbourne or Sydney 'Metro' projects, to ensure that the outcomes are appropriate at the time of development.

The approach taken here is relatively straightforward – identify where more than one set of tracks merges into a single track pair, and develop plans for separating these out. Each track pair on the network should be able to cater for a minimum of 24tph, and once each of these have completely uninhibited capacity available, the next phase is to develop entirely standalone corridors – notionally, again, 'metro' implementations. By the time it comes to developing these standalone corridors, the existing rail network as it stands will have reached complete maturity, and the rail network strategy will have reached its conclusion.

The most immediate, and obvious, issue is that of the western corridor. The four tracks between Corinda and Milton, servicing the Ipswich and Springfield lines, merge into two between Roma Street and Bowen Hills on the inner-city Mains. This means that a corridor with notionally 48tph of capacity is reduced to just 20tph currently, or 24tph with ETCS. Combine this with the fact that there are already 16tph in the current timetable, and it is clear that the corridor is nearing capacity due to the constraint in the inner-city.

It is no surprise then that this was previously considered – in ICRCS, which proposed a new inner city rail corridor to be developed by 2026[22] to address this constraint (and, it appears, would have had the timing almost exactly correct). The exact alignment and function of the new tunnel was never defined, with a range of options generally extending from beyond Milton to Bowen Hills.

Looking at the problem anew, the most cost-effective form of expansion would commence in the proximity of Milton. Between Milton and Roma Street is the location where the four tracks merge into two, so the new tunnel must start before this point. Starting further back would waste the capacity of the existing four tracks, although there could be arguments made for concepts that would allow two tracks to be used as stabling holding roads at the end of the AM peak period to avoid the flat junction into the Exhibition Loop, however this is an issue for detailed design at a later stage – the key focus is that the new tunnel starts west of Milton.

Then there is the issue of which line – the Ipswich/Rosewood or Springfield lines – would be routed through the new corridor. There are a number of factors to consider at this point. Firstly, a new corridor – much like Cross River Rail – would not necessarily be constrained by the platform lengths of the existing corridor, allowing for longer services to be operated. Instinctively, this lends itself to the Ipswich line, with seemingly fewer constraints than the inner-urban stops of the Springfield line, this would present an easier and more economical path to expansion. Conversely, depending on where the new tunnel goes, it may

22 Brisbane Times, Inner City Rail Upgrade Project, 2016

be more appropriate to connect the Springfield line, and potentially operate a different type, rather than length, of rollingstock. There are numerous other considerations, including the nature of any traffic that runs through the city towards the west (e.g. freight) and how that would best be catered for, but for the time being let us continue with the base case that the Ipswich line uses the new tunnel and is extended to 9-car trains. This would then leave the Kippa-Ring line and Springfield lines connected in a stand-alone sector through the inner-city Mains.

In order to double the capacity on the western corridor, it would be sufficient to simply provide an appropriate turnback station in the CBD (e.g. under Roma Street) as a terminus. This would technically allow the full capacity of 24tph to be reached on the new line, however it would deficient as an end state for a number of reasons. Firstly, terminating a high number of services at the edge of the CBD would result in a very large number – conceivably more than 20,000 per hour – of passengers transferring onto other lines, further decreasing their capacity and somewhat shifting the problem. Secondly, a terminus would limit the value inherent in developing a new tunnel, as effectively only 24tph of capacity would be used – whereas if the tunnel were made into a through operation, it could cater twice that amount by the inclusion of trains coming the other way. It is therefore meritorious to consider whether there is an appropriate through connection in the long term.

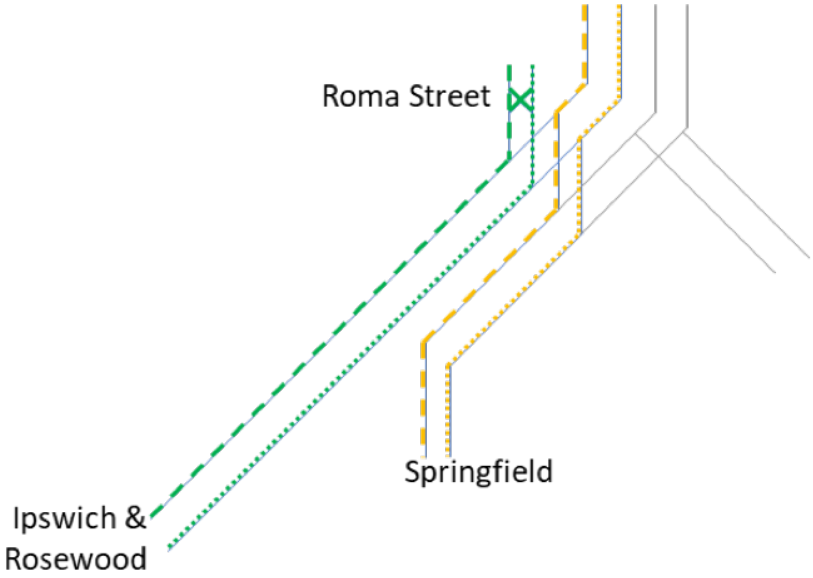


Figure 27: Through segregating the tracks for the Ipswich trains before the merge at Milton, each track pair can carry up to 24tph. Passengers from Ipswich and Rosewood can change at Roma Street to all other services on the network.

At this stage all track pairs have their own dedicated route through the CBD with the exception of the Doomben line (which has been truncated), the Airport line (which is capacity constrained regardless), the Shorncliffe and Ferny Grove lines (sharing the inner city Suburbans from the north), and the Cleveland and Flagstone lines (sharing the inner city Suburbans from the South). The Airport and Doomben lines are immediately discounted due to their capacity constraints and limited long-term demand. For the reasons outlined above, the Shorncliffe and Ferny Grove lines – effectively capable of running a 4-minute frequency on each – are not the best candidates for significantly increased capacity, and a corridor connecting to either of them would have limited land use benefits by needing to largely follow the existing inner city corridor.

This leaves the Flagstone and Cleveland lines as candidates. While the Cleveland line has only moderate potential for growth, it is conceivable that the Flagstone line could reach relatively high numbers of passengers and start to exhaust the capacity of the Suburbans again. Connecting to the Flagstone line could

be a reasonable approach, however given the need to connect from somewhere adjacent to Roma Street to somewhere in the vicinity of Park Road would obviously conflict with – and potentially duplicate – the Cross River Rail alignment in this area. Not only would this not open up any land use opportunities, but the complications around Park Road stemming from the current version of Cross River Rail would make the connection to the existing network very challenging. Through process of elimination, this leaves the Cleveland line as the remaining candidate.

The "Clevewich" line[23]

The natural arc of a tunnel starting from Milton through Roma Street and connecting to the Cleveland line traces a path through the CBD, New Farm peninsula, Hawthorne, and finally connecting to the existing line around Cannon Hill/ or Morningside. Of course, it would be possible to route via Buranda, however this would result in a lot of the same issues as a Flagstone line connection. Instead, not only would a straight line greatly improve the travel time from Cleveland to the CBD, potentially by 10-15 minutes, it would open up land use in New Farm and Hawthorne, providing connectivity to areas currently served by (relatively) slow bus and/or ferry services, and opening up both increased residential and commercial activity. A connection to the Cleveland line could also allow the development of stabling somewhere in the vicinity of Hemmant, helping to diversify the stabling burden away from Mayne and Clapham and providing a level of segregation to this route. The faster travel time may also help to spur demand from the Cleveland line, avoiding the circuitous route and associated time penalty from Morningside through to Roma Street and Central.

Of course, such an alignment would result in the section between Morningside and Park Road being 'orphaned'. While there would be numerous ways to continue to serve this portion of the line, perhaps the most appropriate would be to turn it into a shuttle service to connect to Park Road (and the Flagstone and CRR services) and Cannon Hill (to transfer to the new east-west corridor). Depending on the arrangement at Park Road, it may be possible to operate this shuttle free of the Flagstone services, once and for all removing the Park Road flat junction crossing and providing a completely segregated railway south of the Brisbane River.

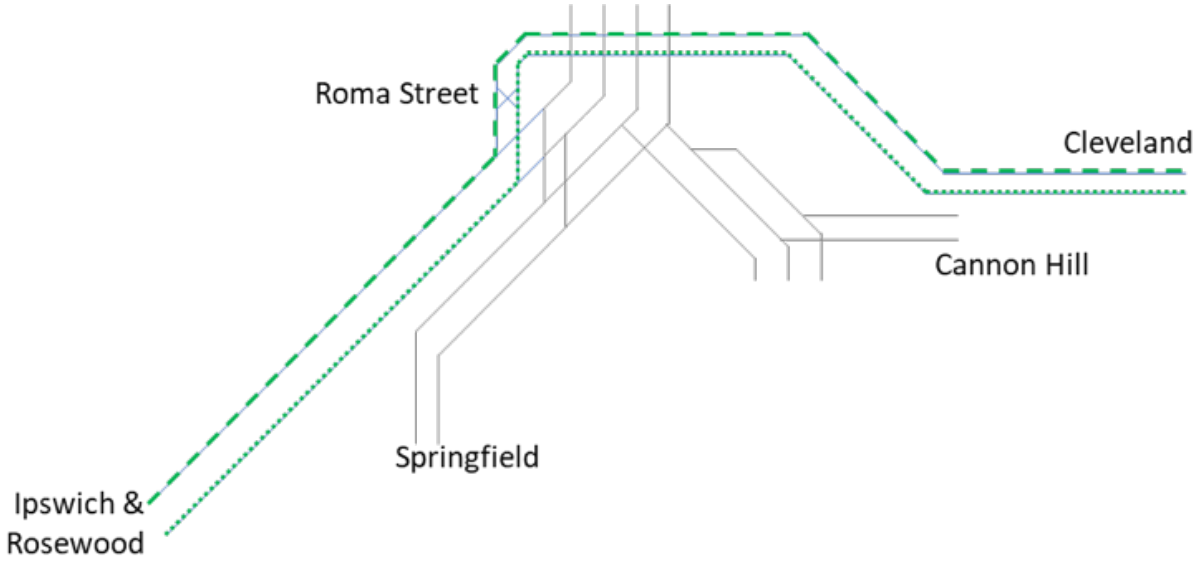


Figure 28: The continuation of the western corridor through the city to the Cleveland line allows the development of the East-West Clevewich line sector.

23 With due deference to the Bakerloo line, with the alternatives being "Roseland" or "Clevewood"

At this point, all track pairs running into the Brisbane CBD are segregated, with the exception of the Ferny Grove and Shorncliffe lines.

The final separation of lines is one that is not assessed in detail in this document, and is not assumed in the end state assessment due to some fundamental differences with the other capacity enhancements proposed. While the Brisbane area rail network is, as noted above, entirely segregated, there are still two areas of the network which limit capacity to particular locations – and, surprisingly, they are the lines that operate through Cross River Rail. With the Beenleigh and Caboolture all-stations services operating in the same corridor as the Gold Coast and Sunshine Coast express services, neither group can reach their full potential, being limited to at best 12tph from each location, or alternatively operating 24tph as all-stations services from the end of the line and drastically increasing journey times. However, the solution which provides capacity and retains or improves journey times is not as straightforward as the other augmentations.

In effect, to fully maximise the frequency from each location would require the addition of two tracks from Beenleigh to Caboolture, including through the Brisbane CBD. Considering that the stations on the existing track need to be serviced, it stands to reason that the existing tracks – including the TRC and CRR – would be used by the Beenleigh and Caboolture services, stopping all-stations but now able to operate up to 24tph (or 20tph for Caboolture once the Airport line is included). This means that the new corridor would be designated to the Gold Coast and Sunshine Coast trains, and therefore would need to be either completely or mostly devoid of stations – otherwise, the point of the express trains is rendered obsolete. This means that a new corridor of approximately 75km in length – 30km south of Brisbane, and 45km north of Brisbane – would need to be developed without providing additional catchment.

This then raises the question as to the validity of such an approach. Is it worth spending a significant amount of money to facilitate very high frequency and very fast services to convey tens of thousands of people one hundred kilometres each day between their home and work? Additionally, if such an alignment were to be developed, would it notionally be as part of a high-speed rail network along the east coast, providing a differentiated service to the Queensland Rail network? This would then allow the Sunshine Coast and Gold Coast lines to focus on intra-regional travel, with slower suburban services connecting to the Queensland Rail network and faster high-speed rail services. Given the level of uncertainty, the size of the investment required, and the fundamental differences to the other proposals contained herein, this particular issue is not assessed further.

Notwithstanding the above commentary, the rail network is notionally at its maximum capacity across the Greater Brisbane area, and there is no scope for augmentation in terms of capacity relief. Any future development would most appropriately be segregated and dedicated metro lines responding to – or incentivising – land use and development of the urban area. The Queensland Rail network is thus complete.

Phase Four A Peak Hour

Maximum peak frequencies shown
Assumes outer network enhancements

Phase Four A Off-Peak Hour

Assumes outer network enhancements
Contra-peak service is greater than or equal to off-peak

Phase Four B Peak Hour

Maximum peak frequencies shown
Assumes outer network enhancements

Phase Four B Off-Peak Hour

Assumes outer network enhancements
Contra-peak service is greater than or equal to off-peak

Maintenance and track possessions

The discussion of service provision and infrastructure development in this document represents the steady-state operations of the network on an average day – everything generally running well and with the full network capability available. However, there are times when the standard operations are disrupted – either through incident, such as a train or track failure, or through intent, with parts of the network closed for maintenance. While the precursors to these events could scarcely be more different, the outcome is the same – a disruption to the standard services which necessarily has an impact on passengers. While maintenance closures at least have the advantage of being able to forewarn passengers to expect the changes, it is still inconvenient for those who had otherwise planned to travel during that time. Ultimately the best solution for both of these issues is a design and sectioning of the network that minimises impact overall and maintains as much connectivity as possible at all times.

It is fair to say that the view of track maintenance has not taken a passenger-centric view on the Brisbane network for some time. The Scheduled Corridor Access Scheme (SCAS), introduced in 2011, took a very regimented approach to track maintenance, scheduling closures of large parts of the network on a regular and rotating basis. Quite justifiably, the rationale was that closure of a large section of track for a reasonable period of time would allow multiple maintenance crews enough time to carry out significant amounts of maintenance and inspection, while minimising the time lost in getting crews and equipment from the depot to the site. However, what was lost in this approach is that long closures are not always required, and a rotating schedule of often overlapping parts of the network leads to considerable disruption on the network. Even now it is possible to see the planned closures up to 12 months in advance, including closures as large as Northgate to Gympie North and Kippa-Ring – a stretch of corridor more than 160km in length – for entire weekends. This gigantic section was scheduled for entire closure twice in the final six months of 2019, and not a single month of the year was without at least one complete closure of a line for an entire weekend. Given the current approach to closures, the western line can be closed twice in a month on weekends.

During these closures, bus replacement services are put on, however these services are often not competitive in terms of travel time with rail, especially over long distances, and the standard advice of 'passengers should allow an extra 60 minutes for their journey' is a strong disincentive to travel via public transport.

A similar impact can be felt during periods of unplanned closures resulting from incidents. While it is not possible to prevent these – by their very nature, they are unplanned – there is an ability to mitigate their impact on the public.

While an analysis of the entire network to provide a more appropriate sectioning is beyond the scope of this document, the following recommendations are made to increase the resilience of the network and enhance the overall customer outcome.

Improved sectioning

The ability to operate parts of the network in isolation, or in an abnormal mode, depends on the sectioning that is available. This sectioning comprises the following:

- Track facilities to enable the turning back of trains at stations which are not normally termini
- Electrical isolation to be able to keep one part of the network electrified, while the adjacent section is de-electrified and thus safe for crew and equipment.

The ability to create smaller sections will minimise the impact of closures and incidents as they arise, by being able to provide a higher coverage service which will be able to carry more passengers between their origin and destination. By way of example, the 160km length of Gympie North and Kippa-Ring to Northgate SCAS should not occur, but rather be reduced to Kippa-Ring to Petrie, Petrie to Northgate, Petrie to Caboolture, Caboolture to Nambour, and Nambour to Gympie North. Shutting any of these sections down would provide sufficient scope to undertake maintenance activities, while allowing more of the network to operate in a normal manner. Similarly, an incident in any of these sections would otherwise allow the rest of them to operate normally (or near-normally, depending on when the incident happens). In both cases, any bus replacement services are minimised, and the overall customer experience is maintained.

It is noted that in the example above, smaller sections could result in more closures causing more disruptive trips – a passenger from Gympie North to Brisbane would see four closures partly interrupting their journey instead of one complete closure. This impact needs to be considered when determining when to undertake possessions, ensuring that the closure is absolutely necessary, but also by adhering to the other recommendation herein.

Increased track centres

One of the major issues with Brisbane's closures is that they tend to be absolute. That is, when a section of track is closed, it is closed to all traffic. One of the reasons for this is the safety of trackworkers – something that must unequivocally be maintained – and the margin, or protection, offered to them from other tracks. In a general sense, there must be the ability to place a barrier between any live tracks (that is, tracks with trains operating) and the workers. What can prohibit this is the relatively narrow proximity of adjacent tracks, which would preclude the placement of a barrier while keeping clear of the operating track and providing clear access to the adjacent.

To remedy this, all new tracks – track amplification, or new corridors – should be designed to accommodate wider track centres for the view to being able to provide safe separation during maintenance activities. While this necessitates a slightly wider corridor than would otherwise be required, the impact to the operation of the network is considerable. During maintenance activities, it should always be the goal to keep at least one track open during a possession. This allows a reduced service – but a service nonetheless – to continue to operate during the maintenance activities, reducing the impact on passengers. When combined with the improved sectioning described above, this would potentially allow a near-normal or at least greatly improved level of service to be operated even during maintenance closures.

Consider the Sunshine Coast/North Coast line example above. With the improved sectioning, only the Petrie-Northgate section may need to be closed. With the increased track centres, one of the three tracks could be kept open for bi-directional passenger traffic (and freight outside of passenger times). Given that an all-stations train takes about 25 minutes to travel this section, single track working would allow a train each way every hour. In fact, using a fleeting of trains, this would allow a Caboolture/Sunshine Coast train to run express ahead of an all-stations Kippa-Ring train every hour. While the hourly service may be a significant decrease from the normal off-peak levels of service, it is likely that passengers will be able to plan around such a timetable while still being able to use the railway and having generally the same journey quality and travel time. This is in contrast to the current situation, with no services operating at all, and instead bus replacement services with much longer travel times.

Outer network enhancements

Outside the inner-city area on which Cross River Rail is most heavily focussed, there are a range of potential upgrades and enhancements to the network that can be considered. Some of these relate to capacity, others to improved travel times, and some to both. In this section, these outer network upgrades will be considered at a high level in terms of their merit and, where applicable, the most appropriate form and staging of that enhancement.

Signalling

The one form of enhancement that will not be considered in detail is signalling. Signalling information is not publicly available, and therefore any assessment in detail is extremely challenging. In general, however, the following comments are made:

- It is assumed that any individual track section is capable of catering for (at least) 24tph with signalling enhancement, particularly with the rollout of ETCS level 2 underway. It is anticipated that ETCS will be rolled out across the wider network as and when the existing signalling reaches life expiry and/or the requirement for increased capacity arises.
- In light of the first bullet point, it can be assumed that where upgrades are discussed in this chapter, signalling enhancement – in the form of ETCS rollout or upgrade – will be included to ensure that the infrastructure is usable in its intended form.
- Given the current and historical operations of the Gold Coast line, including the fact that the last section of single track was only removed a few years ago, it is considered unlikely that the signalling on the line will be sufficient to cater for the increases allowed/required by Cross River Rail. This likely necessitates resignalling of the entire line between Dutton Park and Varsity Lakes, which doesn't appear to be included in any of the Cross River Rail works packages.

Track amplification on Beenleigh line

As one of the lines that most benefits from the capacity increase afforded by Cross River Rail, the shared infrastructure of the Beenleigh and Gold Coast line requires the greatest level of investigation. With three tracks between Kuraby and Park Road, and two tracks between Kuraby and Beenleigh, there is a lack of segregation in multiple areas between all-stations and express services. As such, the express Gold Coast services rarely achieve their possible fastest travel time, needing to be held behind all-stations Beenleigh trains on the same track. With the prospect of higher levels of service through Cross River Rail, this impact will only worsen – see Figure 2 for an explanation.

It is important to note that the assumption in this section is that four passenger tracks (and one freight track) will be provided to Salisbury in order to cater for the eventual spur line to Flagstone, so the focus here is for the corridor south of Salisbury. It should also be noted that this is not an issue of capacity – as a two-track railway could provide sufficient capacity to fill Cross River Rail, albeit with all trains travelling at all-stations speed – but rather the aim of minimising travel times for express services.

The decision points are therefore: when and where is it appropriate to quadruplicate between Salisbury and Kuraby, and when and where is it appropriate to deliver a third and fourth track between Kuraby and Beenleigh.

The question of the quadruplication pertains to the ability to run contra-peak and off-peak Gold Coast services at maximum speed. In the peaks, there are two tracks for peak-direction traffic, meaning that express services are not held behind all-stations services. This leaves the single outbound track to cater for a mix of all-stations and express services. The off-peak is slightly more complex, despite the fact there are fewer services operating, because the third track could conceivably be used for a mix of inbound and outbound express services, although these types of timetables are rarely scheduled. To begin, let us consider the peak periods.

The default approach to track enhancement is to build additional tracks out from the city as and when required or desired. This is evident on every corridor – the number of tracks is highest towards the city and progressively reduces as the distance to the city increases. This approach feels right – after all, there are more services in the CBD area than on the outskirts of the network – however it is not always the most efficient way of achieving the desired outcomes, and this comes down to how the timetables will be developed.

Consider the AM peak for the Gold Coast and Beenleigh lines with Cross River Rail and the Flagstone spur in place (such that there are four tracks to Salisbury). The inbound express and all-stations trains are segregated on two of the three tracks, meaning they are able to run at maximum speed. The outbound contra-peak services are limited to a single track, meaning that express and all-stations trains are together. For the sake of illustration, let us assume that each of the Beenleigh (all-stations) and Gold Coast (express) services are operating at 15 minute frequencies (the following analysis holds true if either of them operate a 15 minute frequency). The way these services present at Salisbury – the order that they turn up in – determines the best way of configuring the infrastructure[24].

From the north there are 24tph through Cross River Rail, running at a 2.5 minute headway, with a mix of services heading to Gold Coast, Beenleigh, Flagstone (or potentially Salisbury), such that the Beenleigh and Gold Coast services run the same stopping pattern until Salisbury, and thereafter run all-stations and express, respectively. The balance of trains enter Clapham yard. Given that in the peak there is ability to send any particular service arriving in the city to any destination out of the city, there is the ability to choose the relativities of the Gold Coast and Beenleigh departure times. That means, for example, it is possible to schedule the outbound Gold Coast services at Salisbury at 7:30, 7:45, 8:00 etc, and the Beenleigh services at 7:32:30, 7:47:30, 8:02:30, and so on. In this manner, each Gold Coast train will not need to be slowed until it has caught up to the previous Beenleigh train, gaining 10 minutes so that the Gold Coast train is now 2.5 minutes behind the previous Beenleigh service (in this example, the 7:45 Gold Coast has caught the 7:32:30 Beenleigh service). While detailed service planning is beyond the scope of this strategy, a reasonable rule of thumb is that each stop added to an express service increases the run time by approximately one minute (by way of illustration, the current timetable between Altandi and Beenleigh is 30 minutes for all-stations, 23 minutes for express (with one stop), with a difference of 9 stops for an average of 47 seconds per stop added). Taking this as a guide, a Gold Coast train would catch the previous Beenleigh train after 10 stops – notionally Kingston station. Of course, there should be some element of flexibility, so even if the assumption was 7 stops, this takes the location to Kuraby. In the scenario we have described, for the contra-peak in a post-CRR with quadruplication to Salisbury, there is no benefit from a scheduling perspective of any additional track between Salisbury and Kuraby. This of course does not rule out a fourth track in this section – as it may be required in different time periods or timetables – but for the AM contra-peak the amplification is not required in this section.

24 The analysis in this section holds true without four tracks to Salisbury, if instead the starting position is taken as Yeerongpilly.

Instead, it is readily shown that the AM contra-peak would instead require some level of third tracking between Kuraby and Beenleigh, before we have even considered the inbound services in this area.

Determining the very minimum separation between trains of 2.5 minutes (and this assumes the same level of signalling headway is expanded for the entirety of the Beenleigh line), this necessitates that the length of the additional track needs to allow the Gold Coast train to move from 2.5 minutes behind the Beenleigh train, to 2.5 minutes in front. Reverting to our rule of thumb, this would be five stations south of Kuraby – in this case, Bethania. Given that there are only seven interim stations between Kuraby and Beenleigh, and to allow some level of flexibility to accommodate delays, it would seem prudent to simply provide a third track for the entirety of the section between Kuraby and Beenleigh. Therefore, for the AM contra-peak, the most efficient form of track amplification to allow unrestricted travel times is not to provide four tracking, but rather to continue the third tracking through to Beenleigh – including additional platforms at Kuraby and Beenleigh.

For the outbound during the off-peak, the same operation could be maintained, meaning the track usage would remain the same as the AM contra-peak as would the track requirements. The off-peak does present the slightly different challenge that it would be necessary for the trains through CRR to be spaced at 2.5 minute headways every 15 minutes, which would allow for 8tph from the North Coast Line, but with 12.5 minute gaps in service delivery. This is not appropriate for the inner-city function that CRR would play (that of a de facto metro system allowing intra-city trips), but fortunately the frequency through the inner city can be supplemented by shuttles running between the two stabling yards – Mayne and Clapham – in between to reduce the service gap to approximately 7 minutes (or even lower, with the prospect of running multiple shuttles possible). These services would not interfere with the express running of the other trains, allowing for the ideal scheduling of Gold Coast and Beenleigh services to continue without impacting the passenger experience. Therefore, the off-peak is considered to be the same as the AM contra-peak.

For the outbound PM peak, given that there are now three tracks from Salisbury to Beenleigh – based on our contra-peak assumptions and requirements – there is complete separation for the express and all-stations services, and no additional track is required. It can therefore be quantified that for the outbound Gold Coast services to operate unhindered, at maximum line speed, requires the extension of the third track from Kuraby to Beenleigh.

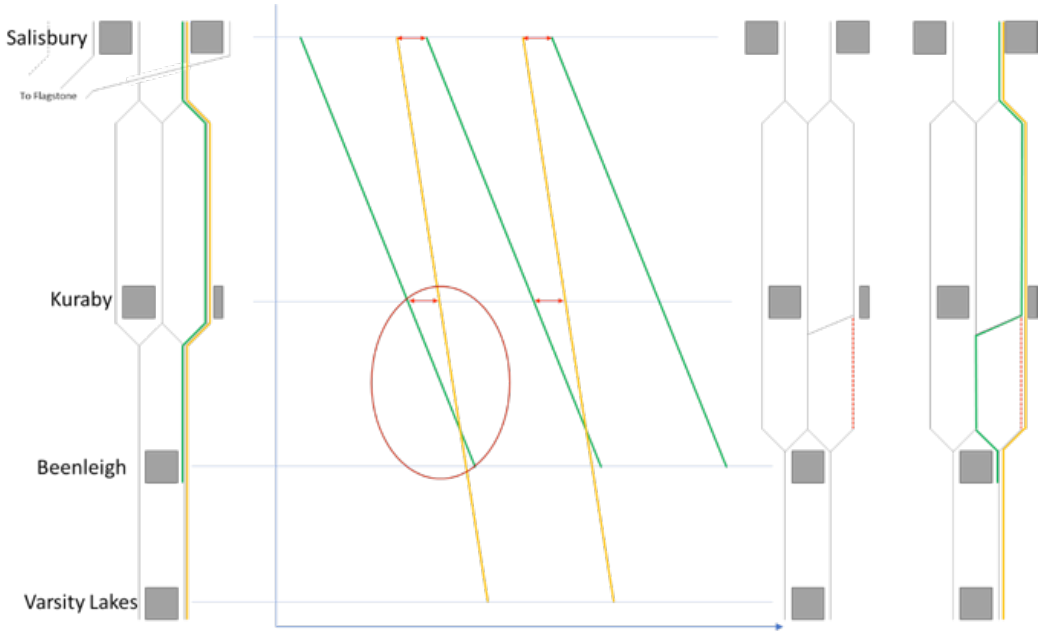


Figure 29: Simplified illustration of the track utilisation during the off-peak which drives the third track between Kuraby and Beenleigh. Note that Beenleigh terminus movements are not shown, including the shunt neck.

Turning attention to the inbound services, starting from the PM contra-peak, we can again assume the same level of service of 15 minutes for each of the express and all-stations trains. Again, we can start at Salisbury and work south, this time with the assumption that we schedule the trains to arrive at Salisbury 2.5 minutes apart, with Beenleigh services ahead of Gold Coast services. Using the analogous argument for the AM contra-peak, it is possible to keep these services separated on the single inbound track between Kuraby and Salisbury, however another track would be required between Beenleigh and Kuraby to avoid slowing of services. This therefore implies that four tracks between Kuraby and Beenleigh would be required.

Assuming the off-peak is the same as the contra-peak, this leaves only the AM peak inbound. As there are now four tracks between Beenleigh and Kuraby, and two inbound tracks from Kuraby to Salisbury, the express and all-stations trains are completely segregated.

This has demonstrated that, with the assumptions of train spacing through the inner-city and the expansion of ETCS2 signalling along the line to allow for small headways, it is possible to run a 15-minute service all day in both directions to both the Gold Coast and Beenleigh without unnecessary slowing of the Gold Coast services through providing four tracks between Kuraby and Beenleigh. Notably, this does not require any fourth tracking between Kuraby and Salisbury.

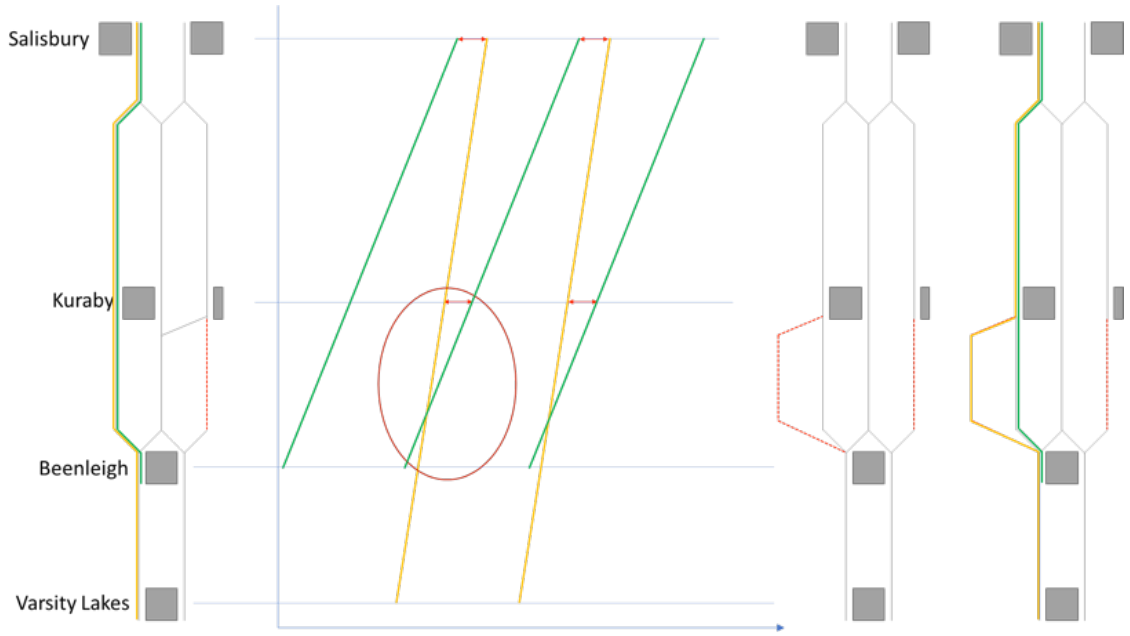


Figure 30: Simplifed illustration of the PM contra-peak, which drives the requirements for the fourth track between Kuraby and Beenleigh. Note that Beenleigh terminus movements are not shown, including the shunt neck.

There are, of course, other ways that this type of separation could be achieved, including four tracking some or all of the section between Salisbury and Kuraby. Additionally, the assumptions here in terms of timetable construction would need to be assessed further in detail using modelling such as RailSys, but nevertheless the general form of this configuration would be expected to hold true.

One beneficial component of track amplification further from the city is that generally the corridor is not as constrained, meaning fewer resumptions are necessary, and where resumptions are required the level of development intensity is generally less and the prices are also lower, meaning that it is often less expensive than expansion near the CBD. In this particular example, only the section between Trinder Park and Kingston stations is particularly narrow with adjoining development, while most of the rest of the corridor has at least one side free of development.

It is also worth considering that if an additional two tracks are required between Beenleigh and Kuraby in order to improve transit times for the Gold Coast trains, there is no compelling reason why the additional tracks need to be in the same corridor for all – or indeed any – of the length of the amplification. The alignment between Kuraby and Beenleigh is particularly slow, with numerous curves and an overall low track speed. The straight line distance between these two points is approximately 17km, while the all-stations travel time is 25 minutes, making for an average speed of only 40km/h (while the rule of thumb used earlier would suggest a travel time of around 18 minutes for express trains, or 60km/h). Conversely, a straighter and faster alignment would be more in line with the high speed Gold Coast line infrastructure, and could conceivably be run in around 10 minutes by express services, further reducing the travel time for the Gold Coast trains to Brisbane (assuming a run time of 50 minutes from Beenleigh to Central station currently, this is approximately a 16% reduction in journey time). There are numerous ways this could be done, from tunnelling to running the new tracks on surface (or viaduct) adjacent to the M1, and notably if the connecting was made south of Beenleigh this would resolve the facing conflict for trains exiting the Beenleigh stabling yard. While the form of this type of expansion would require detailed assessment, it is something that is worth considering in future planning.

To further illustrate the opportunities of the two tracks on the new alignment, this could be viewed as a staging of the delivery of a high speed rail corridor between the Gold Coast and Brisbane as discussed earlier in this document. The new tracks could be designed in such a way as to be handed over in the future, including allowance for standard gauge track and a higher track speed than could otherwise by used by Queensland Rail stock.

Duplication of Sunshine Coast line

This section has largely been superseded during the writing of this document by the announcement of the rail duplication between Beerburrum and Landsborough, and two platforms at all stations between Landsborough and Nambour[25]. This programme of works aligns with what would have been the recommendations from the Minerva Plan, however there are two key elements that require further consideration – the design of low patronage stations, and the potential operation of the Maroochydore Rail Line.

It is noted on the project page that the station upgrades to provide two platforms – at Mooloolah, Eudlo, Palmwoods, and Woombye – describes the works to include “permanent dual platforms connected by lifts and overbridges”. Given that, in November 2019[26], the total monthly patronage in the AM peak for

25 Queensland Government, Beerburrum to Nambour Rail Upgrade Project, April 2020

26 Queensland Government, Novemeber 2019, TransLink Public Transport Origin-Destination trips, chosen as the last full month of data without holidays or potential COVID-19 impacts

the four stations was only just over 2,000 passengers – or approximately 24 passengers per station per daily peak – this represents a substantial upfront and ongoing maintenance cost per passenger. The usual rationale is that the lifts are required to provide disabled access, but there is nothing specific in the relevant legislation[27] that requires the provision of lifts, at least as far as this author can discern. At-grade pedestrian mazes would be compliant, far cheaper in capex and opex costs, and – most importantly – more resilient for passengers with disabilities. Consider the case whereby the lifts are the only access provided – all it takes is for one of the two lifts to break down, and anyone reliant on them is rendered unable to access the train service. In contrast, a compliant at-grade crossing is fundamentally resilient, providing access without the possibility of failure. While the lift-and-overpass design approach may be justified in inner city locations, with 3-4 tracks carrying dozens of train movements each hour and serving hundreds or thousands of passengers, it does not make sense in the semi-regional context of the Sunshine Coast line, with low numbers of passengers and fewer tracks carrying very low train numbers. As explained, not only is this substantially more expensive, it also provides a worse passenger experience including restricting the access of those the lifts are ostensibly there to serve.

The Maroochydore Rail Line (MRL; variously referred to as the 'Caloundra Line' or CAMCOS from the initial study) is a proposed line that would branch from the Sunshine Coast Line at Beerwah (with previous iterations branching at Landsborough) and connecting to the population centres broadly between Caloundra and Maroochydore, with some variations continuing to the Sunshine Coast Airport. This line was considered in CSEQ 2031, connecting into the TRC and CRR and continuing to the Gold Coast – branded as the "CoastLink" service. There is no clear indication at the time of writing as to the status of the line, and the more recent discussion has been around the development of a light rail line[28] along a similar corridor, with perhaps a general expectation that the light rail would replace the heavy rail solution (although that study appears to reference the MRL).

It is a false dichotomy/false dilemma to say that they only one of heavy or light rail can be delivered in a corridor. The classic trade off in planning a new line is coverage versus speed – that is, you can either have a slow journey which has greater accessibility by more stops, or a faster journey with fewer stops and less accessibility. Heavy rail connected to well serviced light rail allows for the benefits of both coverage and speed, improving the outcomes of both while detracting from neither.

It does appear, at a high level, that there would be merit in connecting the population centre of circa 200,000 people by fast rail to Brisbane, especially for only around 35km of new track which would also bolster local connectivity. In any case, it is considered prudent to at least allow for the future connection and how the future operations may be delivered.

It would be expected that trains operating via MRL would be treated in much the same manner as those from the Gold Coast – a good frequency, with high levels of express running. As such, it could be reasonably assumed that the off-peak frequency would be a train every 15 minutes, stopping all-stations to Petrie, before running express to the TRC and CRR. With this type of configuration, the functionality of the existing Sunshine Coast line – the trains north of Beerwah – becomes less clear. It would be important to continue providing a good frequency of service, however running services through to Brisbane in the off-peak would potentially be over-servicing when combined with the MRL trains, particularly when a 15-minute service is probably the maximum to be able to efficiently operate freight trains at the same time. While there are a range of options, perhaps the most balanced would see these services truncated at Beerwah during the

27 Federal Register of Legislation, Disability Standards for Accessible Public Transport, 2002

28 Sunshine Coast Council, Sunshine Coast Mass Transit Project, June 2020

off-peak to facilitate a connection to the MRL services. This would allow half-hourly services from Nambour – or even further north, as far away as Gympie, but for simplicity these will all be referred to as 'Nambour' services in this section – to be operated, and connect to the fast MRL services. While interchange is usually seen as undesirable, the opportunity currently exists to plan the infrastructure and service provision to be customer-centric, and make the transfer as seamless as possible.

To truly make a station 'customer-centric', particularly an interchange, requires a significant change to the standard layout. To begin, let us consider the journey of a passenger travelling from the north to connect to an MRL service headed to Brisbane. The best possible outcome would be to arrive at the station, cross a platform, and board a service within a few minutes – meaning terminating on an island platform, with the MRL service scheduled immediately afterwards to arrive on the opposite side of that island platform. Similarly, a journey from the MRL (say, Caloundra), heading north would also benefit from this arrangement, with the reverse transfer also occurring cross-platform.

In determining the best outcomes for the alternative journey combinations – from Brisbane to Nambour, or from Nambour to Caloundra – it is easy to show that the same types of movements must also be required, but would notionally not be possible under a traditional station layout, in that the Nambour trains cannot simultaneously be on both island platforms. However, it is possible to facilitate this arrangement with two island platforms with only three tracks such that the Nambour train is able to open doors on both sides. A middle track 'dock road' with access to the platforms on both sides would enable cross-platform connections both ways. While relatively rare, being able to access two platforms from one track via both sides of the train – known as the "Spanish Solution"[29] – does occur in numerous networks, including in Sydney at Olympic Park. Passengers arriving from a Nambour train would alight to the left in order to board an MRL service towards Brisbane, or to the right to travel towards Caloundra. From the operational perspective, the sequencing of trains would see the Nambour train arrive into the station, followed by the Brisbane-bound MRL service approximately 4 minutes later. In the reverse direction, the northbound MRL could arrive at the same time as the southbound MRL, with the Nambour train then departing approximately 4 minutes afterwards (or 8 minutes after it arrived). In this way, any of the four transfers are completed within 4 minutes, and all are cross-platform. This sequencing also works well for freight, by aligning the two sectors – the MRL and the Nambour line – freight services can be offered more defined paths without the need for being held.

Such timetabling – to provide great benefit to the passengers – can only be achieved in a network which is unconstrained by infrastructure limitations. Every time a constraint is entered into the network – flat junctions, single tracks – these opportunities are taken away as the relative times of trains become 'fixed'.

Of course, in the above configuration, transfers between services are prioritised above passengers starting or ending their journeys at Beerwah, and forcing them to cross the tracks in order to leave the station. If, as suggested above, at-grade pedestrian mazes are installed this is not a major inconvenience. However, if the lift-and-overpass approach is retained, this necessitates two vertical transport movements for every passenger starting or finishing their journey at Beerwah. In this scenario, the customer experience would be improved by the provision of two additional side platforms so that all three station tracks allow the trains to open to platform faces on both sides. This would truly minimise the number of vertical transport movements required in any situation, noting that they can never be completely removed – a passenger arriving from Caloundra and wanting to access the western side of the station would still need to cross the corridor. This would represent the true expression of 'customer-centric design'.

29 Spanish Solution, Wikipedia

Finally, to close out the consideration, peak services between Nambour and Brisbane would be able to operate normally, using either the inside or outside tracks depending on any relativities with MRL services.

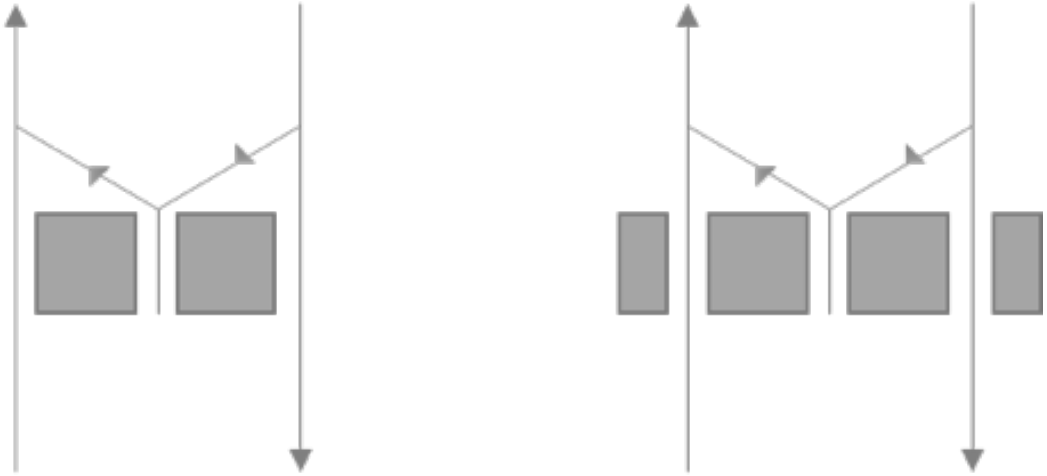


Figure 31: The two prescribed platform arrangements at Beerwah to facilitate ease of transfer. The centre track allows the train to access both island platforms. While not shown, the dock road would connect through to the main line on the southern side of the station to improve flexibility.

Duplication of the Cleveland line

Regardless of how Cross River Rail is delivered – either the official (current) version, or the improved version presented in this plan – the Cleveland line is one of the main beneficiaries. Taking some/most/all of the Gold Coast and Beenleigh line trains from the Suburbans frees up paths to run additional Cleveland line trains. However, the Cleveland line contains a significant amount – approximately 13km – of single track, more than combined lengths of the airport and Doomben lines. This single track between Manly and Cleveland prohibits the operation of more than 4tph from Cleveland, as even the 15-minute frequency relies on exactingly timed crossing moves at stations in order to function. However, even more than this is the constraint on timetabling that this sequencing causes. The Cleveland line interfaces with the rest of the network at one of the major flat junctions in the Brisbane network at Park Road, whereby outbound Gold Coast/Beenleigh line trains conflict with inbound Cleveland line trains. This crossing is exacerbated by the fact that the relative timings of inbound and outbound Cleveland trains – and thus the relative timings of all trains through Park Road – are 'fixed' by the single-track operation. Furthermore, the single-track operation limits the flexibility with which the short-starting Manly services can be scheduled, further complicating operations. Duplicating the Cleveland line would not only allow for an increase in the number of services from Cleveland, but would also make the impact of Park Road junction far less critical, greatly improving reliability. This is not a mysterious concept – as recently as 2017 a consultant review commissioned by TMR identified the benefits and planned staging for the full duplication of the Cleveland line[30].

However, the other reason for duplicating the Cleveland line requires an understanding of the limitations of the infrastructure and the presumed future method of operation – at least until the East-West corridor is, hopefully, developed. The current timetable operates 4tph from Cleveland, offset by another 4tph from Manly, with the Manly trains scheduled two (2) minutes behind the Cleveland line on departure towards the city. The Cleveland trains run express through to Morningside, skipping seven stations and ending up seven minutes ahead of the Manly trains – and eight minutes behind the previous Manly train – thereby gaining approximately five minutes of travel time improvement.

30 TMR, Park Road to Cleverland Rail Upgrade Planning Project, Stage 1 Duplication, July 2017

Consider now the case where additional services are able to operate, and the total service provision in increased from 8tph to 12tph, 6tph from each of Cleveland and Manly (a 10-minute frequency). In keeping with the principles of consistent timetabling, Manly and Cleveland trains would each now operate on 10-minute headways. Keeping the same timing at Manly as the current timetable, we would have departures at 0, 2, 10, 12, etc minutes, alternating between Cleveland and Manly trains. Whereas the Cleveland trains were previously six minutes behind the previous Manly trains by the time they reached Morningside, this configuration means they are now only three minutes behind – which is approximating the closest headway possible. As a result, the amount of express running for Cleveland trains is limited to seven stations (or a five-minute improvement over the all-stations time) by the point at which 12tph in total are operating. Any further increase in frequency slows the express trains down to the point that they no longer have a travel time advantage over the all-stations trains. At this point, there is greater amenity in simplifying the service to be consistent, meaning that all trains operate all-stations. To prevent imbalanced loadings in this scenario, all trains should start from the same location – in this case Cleveland, which is only possible with full duplication.

Duplication of the Doomben, Airport, and Shorncliffe lines

The three short lines to the northeast of Brisbane all have some element of single track – Shorncliffe between Sandgate and Shorncliffe, the Airport between the main line junction and the international terminal, and Doomben for its entirety. They are both relatively easier to understand, and relatively less significant than the other constraints, allowing them to be grouped together.

The easiest line to consider is the Airport line – given that it is privately owned until 2036, conjecturing about altering it is as useful as considering changes to any other private holding. In a general sense, while the frequency of the airport line does not need to increase in the foreseeable future, the one major change that would provide benefit is at least partial duplication at the main line end. Currently, a train must leave the Airport line and start running on the main line before another train can leave the main line. This creates a perverse prioritisation of scheduling in order to manage the near-deficient capacity of the Airport line's single-track arrangement. Providing a level of duplication clear of, but in close proximity to, the main line would resolve this issue and allow for greater flexibility in pathing. Whether this duplication was provided in concert with the delivery of the grade separation suggested in Figure 25, or perhaps with the oft-discussed creation of a new station in the 'Skygate' precinct[31], is something that could be considered when either – or both – of those projects are realised.

As indicated earlier in this document, the Doomben line is not considered critical in the form of a through line in later years with a recommendation to truncate the line at Eagle Junction. The running time of the line is relatively short, with Ascot – where there are two platforms – to Eagle Junction only taking seven minutes. As such, the functionality of the Doomben line needs to be looked at in a broader context – in this truncated form, it would potentially be better served by operating as a smaller vehicle like a tram. This would allow a higher frequency to be operated with less requirement for signalling upgrades, and flexibility to extend into the Hamilton/North Shore area via extension.

This type of arrangement is reminiscent of lines such as the Waldenburgerbahn in Switzerland, which is a narrow gauge tramway, operating mostly single line with passing loops at stations, connecting to a major interchange hub at Liestal[32].

31 Brisbane Times, Brisbane Airport pushes for new Skygate DFO train station, August 2017

32 This line is currently been upgraded to be a similar gauge to the Queensland Rail network – 1000mm vs 1067mm. Information including a track diagram is shown here:

This leaves only the Shorncliffe line. The length of single track is less than 1km, and there are two tracks (but only one platform) at Shorncliffe already. Given the expectation for the line to ultimately go to at least 8tph, and the relatively low cost and impost of providing the duplication – even during the works, Sandgate station could most likely be kept open – there appears to be no good reason to retain the single track. Even for the removal of yet another timetabling constraint on the network, it is worthwhile.

Freight-specific enhancements

While the works suggested in this document have often mentioned the needs of freight – such as between Yeerongpilly and the Port of Brisbane, or on the Sunshine Coast line – there is little in the way of specific freight recommendations. This is partially due to the fact that freight timetables are not readily publicly available, unlike the passenger timetables, making assessment of specific needs more challenging.

The only immediately obvious freight enhancement that could be recommended is the provision of an additional passing loop on the dual gauge freight line between Park Road and the Port of Brisbane. By allowing freight trains to pass each other on this section of track, sufficient capacity may be realised to prevent the need for freight trains to run on the electrified passenger tracks which also requires them to cross inbound passenger trains at Yeerongpilly or Salisbury.

Beyond this, and ensuring that passing loops are of sufficient length, there is little that can be said about freight capacity enhancements without access to the timetable information, with an exception on the western line detailed below.

Ripley Valley extension

The proposed rail line between Springfield Central and Ipswich[33] would provide heavy rail to a future highly developed region in terms of housing, and is generally a sound idea. The major issue is the lack of clarity as to how the line would be operated, as it could conceivably be an extension of the Springfield line, the Ipswich line, both, or partially both (e.g. each extended to Ripley). The default position in this strategy is for it to be an extension of the Springfield line, for reasons which are explained in the stabling analysis section.

Fourth track electrification between Corinda and Darra

This is a relatively straightforward item – although there are four tracks between Corinda and Darra, one is not electrified, nor does it have a platform face. This unelectrified track would be required to fully segregate the Ipswich and Springfield lines, and is therefore crucial to the vision described in this document, and it is not seen as being contentious in any way.

One aspect that could impact rail development in this area is freight access. Rail freight coming from Tennyson and heading towards Roma Street could conceivably operate between Springfield services and cross into the Exhibition loop after the dive structure for the Ipswich line. Trains coming from Tennyson and heading west could be scheduled between outbound Springfield services, then use the track under the flyover to merge with outbound Ipswich services to continue their journey. The difficulty would be for trains coming from the west and heading to Tennyson, as these would not only need to be scheduled between inbound Ipswich services, but then cross the outbound Ipswich services and both the inbound and outbound Springfield services in order to enter the loop. If rail freight continues to use this path in any great volume – as the alternative is the bypass described by Inland Rail to connect Calvert to Kagaru and travel via Acacia Ridge instead – it may be necessary to build a grade separation to allow this freight movement without causing conflicts.

33 Queensland Government, Ipswich to Springfield Public Transport Corridor Study, July 2019

Sensitivity testing

Are there alternative ways of achieving the vision described here?

With any form of transport strategy – and particularly rail, given the large capital outlay and difficulty with altering the permanent way once it is operating – it is worthwhile considering alternative ways of delivering a similar outcome. In a major project, this would normally be undertaken by a 'challenge team', a small group of experts tasked with challenging the status quo and seeking to ensure the project is as efficient as it can be. While no such challenge team exists here, the approach taken will be to examine each item suggested and considering if it could be achieved by an alternative means. Additionally, there is no shortage of suggestions for network enhancements and upgrades in the transport planning community, and some of these will be considered as well.

Cross River Rail

The major point of contention will be the changes to Cross River Rail (particularly as the project is under construction already) and it is therefore the logical place to start assessment of alternatives.

To circumvent a lengthy discussion, any of the changes here could theoretically be implemented even if Cross River Rail went ahead in its current state. The issue is not so much the feasibility of the enhancements being delivered, but the cost and disruption that would occur.

To illustrate the point, it would be conceivably possible to extend the tunnel from Park Road through to Yeerongpilly even if tunnel stubs were not delivered during construction, however the impost would be significantly greater. To extend tunnels that were not designed to do so would require shutting the operating corridor down for potentially months while the tunnel lining is broken through and the excavation and track laying continues. If the existing tunnel is not able to be extended while keeping the portal tracks open, this would then require the entire corridor to be closed until the long tunnel was open for operation. Not only would the level of disruption be much greater, the cost would also increase both in terms of the complexity of extending a tunnel which wasn't designed to do so, as well as the costs associated with the disruption during delivery (e.g. bus replacement services). In contrast, if tunnel stubs are delivered, the extension of the tunnel can be completed without the need to shut down services for any length of time other than commissioning (which would be expected to take a few weekends at most). Furthermore, with the stubs extended, the initial tunnel portals could be retained, providing further redundancy and flexibility to the system.

As such, it is important to consider that while everything is technically possible, it is the impact and additional cost of the development that can be avoided by appropriate future-proofing and enabling works during construction.

Extension of the tunnel to Yeerongpilly

While the example above touches on the specifics of extending the tunnel, it is also worthwhile considering what the long tunnel provides in terms of benefits and identifying if there are other ways to deliver these benefits. In particular, the extended tunnel would provide:

- Improved capacity for passenger services, allowing the segregation of express and all-stations trains in both directions at all times
- Faster travel times for services from the Gold Coast by virtue of a faster and more direct alignment by tunnel
- A dedicated freight track (through repurposing of the dual gauge line) between Park Road and Yeerongpilly

To provide the same level of capacity to both passenger and freight services, the most obvious answer is to provide the additional track capacity at surface – that is, expand the number of tracks from three to five. While this would not provide the travel time benefits (and these cannot be achieved without a new corridor), the capacity equation would be the same. Indeed, five tracks at surface would potentially provide for improved redundancy by being able to switch trains between tracks (especially in an Up-Up-Down-Down configuration as described above).

The major downside to this approach is immediately apparent when viewing the corridor in satellite imagery. The existing corridor is narrow, and to deliver another two tracks – all the while keeping separated from the existing tracks lest they be shut down during construction – would require significant land acquisition through what is a relatively heavily populated stretch of land. It is worth reiterating that the ICRCS project recommended the tunnel surface at Fairfield, and it was the original Cross River Rail team who identified the benefits from both cost and social perspective of keeping the tracks in tunnel until Yeerongpilly. This was the subject of a rigorous assessment a decade ago, and an impartial view now would reach the same conclusion.

The other consideration is the dedicated freight track. The benefit this provides is effectively unrestricted access to the Port of Brisbane, compared with the curfew in place currently that prevents freight trains from operating in the peak periods. The long tunnel to Yeerongpilly would effectively extend the segregated network from the Port of Brisbane to Corinda, and to Yeerongpilly. With the prescribed works for Salisbury to Flagstone, the provision of a dedicated freight track between Yeerongpilly and Salisbury would extend the dedicated network to the interstate line, including potentially to a connection to Inland Rail.

There have been various discussions about how to enhance freight capacity to the Port, with the most comprehensive being a tunnel bypassing the suburban network entirely. While this would certainly provide a significant capacity boost, especially if a dual track tunnel (or tunnels) was provided, it would be much more expensive given the length and the gradient of the tunnel required for freight. Additionally, while this would provide the benefits of freight capacity between Acacia Ridge and the Port, it would do nothing for freight services not destined for the interstate line - for example, any freight traffic from the North Coast Line to the Port which would use the Tennyson loop. It would also not resolve the other two issues for passenger traffic between Park Road and Yeerongpilly.

It remains clear that the most appropriate form of capacity enhancement remains the long tunnel to Yeerongpilly, from both a freight and passenger perspective.

The extension to the Trouts Road Corridor

The long-term vision of connecting CRR to the TRC would be best accommodated by tunnel stubs at Roma Street station, however there would be other ways of achieving the same outcome.

The most obvious way of connecting to the TRC would be to create another dive structure on the Exhibition line, and have the CRR tracks resubmerge somewhere along the line. Given the density and complexity of structures on the northern side of Exhibition station (the multi-level mess of roads associated with the tollways, and the entrance to Mayne Yard stabling and maintenance), it is reasonable to assume that a portal to the TRC would need to occur between Exhibition Station and the CRR portal.

While the corridor is not as constrained as some parts of the network, it does have constraints in the form of the Inner City Bypass on the northern side, and Victoria Park on the southern side. There are also numerous other constraints like the land bridge, Bowen Bridge Road bridge, Brisbane Girls Grammar, and the existing train wash shed. While it is conceivable that a suitable parcel of land could be found to develop the second set of portals, everything again reverts back to the same issue with the other enhancements – unless this is allowed for now, it will be incredibly disruptive and costly to construct later on.

Consider the arrangement presented in the June 2019 drawings. This shows that the tunnel tracks tie into the surface tracks around the area where the train wash is located. The corridor then curves and narrows considerably on the approach to Bowen Bridge Road, thereafter into the upgraded Exhibition station. The length of the corridor between the tie-in and Bowen Bridge Road is approximately 600m, which compares to the approximate 400m of portal structure (not including track curvature on surface) for the Cross River Rail design. This would mean, notionally, that the beginning of the dive structure for the TRC tunnels would need to be located within 200m of the proposed tie-in for the Cross River Rail portals. Not only is this a challenging task given the aforementioned corridor constraints and curvature, but it would be occurring through a heavily utilised piece of operating network. Under the Cross River Rail design, that section of track would take all North Coast Line services including freight, with the former needing to diverge and run towards Roma Street. Unless these tracks are pre-emptively laid out for the second portals, they will need significant closures to realign, during which time regular services will not be able to operate. This is made more difficult by the fact that freight operates out of passenger service times (including during the night) making construction possessions impossible without causing a disruption to one or both users of the rail network. It is clear that the current design would not accommodate a second set of portals – superimposing the first set over the corridor would take up most of the proposed track work – and therefore the risk of disruption remains.

Even if it was possible to provide the requisite allowances for the second dive structure, it is worth considering whether that is the best way of establishing the connection. Notwithstanding the changes to the surface tracks to allow the second dive structure (which are not required with a direct underground connection from Roma Street), but the route becomes far more circuitous and much slower. Consider the straight-line direction from Roma Street to Enoggera is approximately 5.7km, which could be run at a high speed (e.g. 100km/h or higher). Compare this to the alternative double-dive structure, which would require something like 7.5km to reach the same point, of which the first 3km would likely be at speeds of 60km/h or lower, given the steep grades and tight curves associated with the dives. Not only would this arrangement by significantly slower, but the opportunities for connectivity are far more limited. Remaining underground from Roma Street would allow stations to be built either at QUT Kelvin Grove, or Ashgrove (or even both), while the double-dive would preclude these opportunities and instead require an alignment broadly the same as the existing Ferny Grove line.

Once again, the alternative to the underground connection to the TRC could be delivered, but at the cost of travel time, passenger experience, and the ability to further integrate centres into the rail network. These downsides are preventable, by simply allowing for tunnel stubs at Roma Street station during construction.

The Trouts Road Corridor itself

Of course, it is worth considering whether the TRC itself is a worthwhile endeavour, let alone the best way to connect to it.

In a strict capacity enhancement functionality, the TRC provides additional track capacity between the city and Strathpine, effectively segregating the Redcliffe Peninsula line from the Caboolture and Sunshine Coast lines, enabling a doubling of capacity from north of Northgate. The same capacity could be provided by providing a fourth track between Northgate and Strathpine (or, to be more accurate, Petrie), and then providing another two tracks between Northgate and the CBD (notionally to Cross River Rail). Providing a fourth track at surface between Petrie and Northgate would be of variable difficulty, with the corridor alternating between very narrow with large surrounding built environment (such as the section between Northgate and Geebung) to relatively wide with limited adjacent structures (such as Strathpine to Zillmere), but would nevertheless require both substantial numbers of property acquisitions as well as lengthy shutdowns of the corridor, with all the associated difficulties thereof. Between Northgate and the CBD, it would almost certainly require a new tunnel to be constructed of approximately 7-8km, which would then provide the same conceptual track capacity as the TRC. From the capacity perspective, therefore, it is clear that there is another way of achieving the same outcome.

However, developing capacity in this manner would remove all the benefits that come from creating a new corridor. Firstly, having segregated corridors enhances the resilience of the network, allowing connectivity via multiple routes in the event of incidents. The TRC would also be a shorter route – around 20km between Strathpine and Roma Street, compared to 23km via Northgate. It would also be able to be made significantly faster, with a predominantly straight profile not constrained by legacy curves and adjoining development with the existing line. Both of these elements contribute to shortening travel times between the Sunshine Coast and Brisbane. The final element is that developing new capacity along the existing corridor removes the ability to provide new stations and generate land use outcomes – an understanding demonstrated in the ICRCS phase which advised against Cross River Rail following the existing tracks for similar reasons.

There is therefore an alternative means of providing the capacity outcomes of the TRC, which would preclude the travel time, resilience, and land use and connectivity provided by the new corridor.

Stabling and fleet requirement

In order to support the operations described in this plan, it is necessary to consider the requirement for both stabling and fleet. As the network moves to a more segregated operation, there are advantages and preclusions for the provision of fleet and stabling. As an example, trains for the Kippa-Ring to Springfield line could be configured differently to those operating on the Maroochydore to Gold Coast line- shorter trains with more standing room on the former, longer trains with more seating and luggage storage space on the latter. The ability to specialise rollingstock to a particular service becomes achievable, compared to today when almost any train could end up anywhere on the network.

Similarly for stabling, the increase in segregation from the operations leads to a need for increased segregation from a stabling perspective. Currently Mayne yard is used by services from every line, with trains mixing in the different yard areas, however this comes at the cost of less efficient access and egress to the main lines. Compare this with the Mayne proposed by Cross River Rail, which splits the precinct into three distinct stabling areas – for the Mains, Suburbans, and CRR tracks – and removes the crossing conflicts[34] for access and egress. While this arrangement undoubtedly has benefits, it does place a crucial requirement to plan correctly for each line. The removal of flexibility towards hard segregation means that there needs to be sufficient stabling capacity for each sector in the ultimate configuration, otherwise services will simply not be able to be delivered.

To this end, the stabling and fleet requirements for each of the future sectors has been assessed.

Underlying timetables

In order to identify fleet and stabling requirements, it is necessary to develop concept timetables for each line. These timetables are used to determine the total number of trains required to operate the service plans, and the rate at which trains enter and leave stabling yards.

While there are many different ways of developing timetables, and particularly for new lines and corridors which are not fully specified, the approach here is one of 'best endeavours'. The timetables are considered to be realistic in that they could reasonably be implemented on the future network, and adhere to conventions of best practice scheduling. The assumptions and caveats applicable are as follows:

- The timetables have been developed to generally align with the start-up and closure of services on the current network.
- All suburban lines have an underlying 15-minute service provision, which is maintained as much as possible throughout the day.
- Two-hour peaks are considered – 7am-9am arrival into Brisbane, 4:30pm-6:30pm departure from Brisbane – where the service provision is maximised to fully utilise the capacity of the network. A shoulder-peak transition to the off-peak frequency is provided.

34 There is still a conflict for egress in the PM peak for trains using the Ferny Grove flyover.

- Where available, all scheduled run times are taken from the current Queensland Rail timetable.
- Where run times are not available – either by a change to stopping pattern or through new corridors – rudimentary modelling to calculate the runs times has been undertaken.
- Basic train diagramming – aligning the movements of individual pieces of rollingstock to the timetable – has been undertaken for the start-up of services and the peak periods to determine fleet and stabling requirements. This includes, where applicable, 'second running' of trains as empty services to create another peak service.
- The number of trains coming from or going to stabling is identified, however the source of stabling is not necessarily named. Given that the stabling requirements in the future are far greater than the current provision, the objective is to show how much stabling is required for each line.
- Stabling calculations are based on timetables from start up to the middle of the day. This is due to the fact that the stabling movements should be generally the same, but reversed, in the afternoon through to close down of service.
- Given the uncertainty around future lines and travel times, the exact amount of stabling and fleet will be subject to change. However, the scale of requirement presented here will remain valid.
- Some services may need to be adjusted by a small amount to remove conflicts in practical operation, however this is not considered to impact the outcome, and the timetables would reflect the customer-facing schedule in terms of service consistency.

The timetables used for the analysis below are included in Appendix One.

The Mains - Kippa-Ring to Springfield Central and Ripley

The default timetable for the Mains sector is Springfield Central to Kippa-Ring, which has been set developed according to the following assumptions:

- Every service is all-stations between Kippa-Ring and Springfield Central, with the exception of express running between Northgate and Bowen Hills – stopping Wooloowin only – in the same manner as the current timetable.
- A 15-minute off-peak service from start to finish of service, with only minor variations in the shoulder peak, and no service interval of more than 15 minutes.
- A 3-minute (20tph) peak frequency for two hours, arrival into Central between 700-900, departure from Central between 1630-1830.
    - While a 2.5-minute frequency could conceivably be operated, a 4tph reduction in overall service is provided to allow for the Airport trains via Cross River Rail which share track space between Wooloowin and Mayne. These services are not shown, but would be slotted through as available using the additional platform at Wooloowin as a holding point.
- Shoulder peak levels of service of 10-minute frequency, for between 30-60 minutes either side of the peak.

The analysis shows:

- A total of 68 train sets are required for the operation of the timetable, meaning a total fleet requirement of 72-76 trains once maintenance and spares are considered.
- A total of 38 trains are required to start at Kippa-Ring in the morning; 30 trains are required to start at Springfield Central during the morning.
- The Kippa-Ring morning peak service makes use of two trains empty running from Bowen Hills to form a second peak service; for Springfield Central this number is 10 trains.
- A total of 22 trains from Kippa-Ring finish their working at Roma Street during the morning for inter-peak stabling; from Springfield Central the number is 30 trains finishing at Bowen Hills.
    - The total amount of interpeak stabling is therefore 52 trains.

The current and prospective stabling provision on this sector is:

- Kippa-Ring has stabling for 10 trains, with provision to expand to 15 trains[35].
- The Cross River Rail design for Mayne yard appears to have roads for 16 trains for the Mains[36]

This means that there is a current expectation of 31 trains of stabling capacity on this sector, representing a current planned shortfall of 41-45 trains.

While Redbank has a stabling facility nearby, it is not suitable for supplying Springfield Central in the long term, due to both the indirect access at Darra (requiring trains to turnback on the main line) and the ultimate saturation of the Ipswich line.

35 Rail Knowledge Bank, Josey P, Burton, T, Moreton Bay Rail Link

36 Cross River Rail, General Arrangement, Sheet 24, 2019

A previous investigation[37] found very little in the way of options for stabling between Darra and Roma Street – the ideal location for stabling both for interpeak and to supply Springfield Central – with Wacol being the closest option identified, which suffers the same restrictions as Redbank.

It may therefore be particularly challenging to provide appropriate and efficient stabling for Springfield Central and interpeak stabling for Kippa-Ring in the network's current configuration. Either stabling is provided in the north of the network, resulting in significant amounts of empty running and increasing network congestion outside of peak periods, or stabling provision is included in the expansion of the network to the Ripley Valley. For this reason, it is considered appropriate to operate the Ripley Valley line as an extension of the Springfield line, and is therefore the default position in this strategy.

Extending the timetable to Ipswich via Ripley results in the following changes:

- The total operational train requirement increases to 81 trains (an increase of 13), meaning a total fleet of 85-89 once spares are allocated.
- 43 trains are required for the start of service at Ipswich, via Ripley.
- 32 trains are required to stable during the interpeak from Kippa-Ring, due to the number of second runs reducing by 10 trains.
    - This takes the interpeak stabling total to 62 trains.

In light of the above, it is both likely and critical that sufficient stabling is provided in the Ripley Valley area. Not only will this stabling facility be used to start services in the morning, but it will also be required for interpeak stabling.

For trains coming from the west, there would be sufficient stabling at Mayne and Kippa-Ring to accommodate the interpeak requirement, although the empty running to Kippa-Ring will limit some freight opportunities on the North Coast Line. There is still an overall deficiency of service overnight, with the Mayne stabling facing the wrong way to start Kippa-Ring services - meaning that these services should instead be used to start western services - necessitating an increase in stabling provision of approximately 25 trains to accommodate overnight stabling requirements.

The pervious stabling investigation found limited opportunities for additional stabling between Petrie and Bowen Hills. Only a Strathpine site, located near to where the TRC would join the North Coast Line, was assessed in detail and was noted to perform well on the assessment criteria. The study found that two yards of 10 trains[38], one each side of the main line, could be developed. While this would need to be considered in terms of the configuration of the junction with the TRC (see Figure 22), it is possible that stabling could conceivably be provided for both overnight and interpeak stabling in this location. Additionally, it is possible that, given the current land use, land between Petrie and Kippa-Ring could be made available for stabling.

Given the above, the conceptual stabling movements throughout the day, and the stabling yards they necessitate, are:

- In the morning, 38 trains travel to Kippa-Ring to start service:
    - 15 from Kippa-Ring yard
    - A further 23 from another yard ideally located at Strathpine, or elsewhere on the Kippa-Ring line itself

37 SEQ Strategic stabling investigation, Draft final report, Volume 1: Scope definition, September 2012

38 SEQ Strategic stabling investigation, Final report, Volume 2: Site evaluation, assessment and conclusions, Septemer 2012, page 123

- A total of 43 trains trave to Ipswich to start service:
    - 16 from Mayne yard north
    - A further 27 from stabling on the Ripley Valley line
- At the end of the morning peak, a total of 32 trains from Kippa-Ring finish their service at Roma Street and need to head to stabling:
    - All assumed to stable at the Ripley Valley line yard
- At the end of the morning peak, a total of 30 trains from the west finish their service at Bowen Hills to stabling:
    - 16 at Mayne yard north
    - A further 14 at either Strathpine, or Kippa-Ring
- Based on the above, the stabling yards required are:
    - Kippa-Ring, 15 trains
    - Strathpine and/or Kippa-Ring line yards, 23 trains
    - Mayne yard north, 16 trains
    - Ripley Valley line, 32 trains

Note that the Ripley Valley yard's size is determined by the interpeak, not the overnight stabling requirement. As it would be more efficient to stable trains closer to the terminus overnight, it is likely that the Ripley Valley yard would be full during the night, reducing the usage of Mayne yard north by 5 trains. As this does not change the overall stabling yard provision, this is a more efficient outcome.

The Suburbans – Ferny Grove and Shorncliffe to Beaudesert

The Suburbans timetable is based on the following parameters:

- All services stop all-stations, all day.
- Each of Ferny Grove and Shorncliffe has a 15-minute underlying service, all day. These services run through the city, to either Salisbury or Beaudesert. Conversely, there is a 15-minute service all day from each of Beaudesert and Salisbury. In both directions, services are spaced to provide an even 7.5-minute frequency between Bowen Hills and Salisbury.
- A 5-minute frequency is operated during the peaks from each of Ferny Grove and Shorncliffe, arrival into Central between 700-900. This provides a total of 24tph from the north.
    - While it is assumed that the Suburbans can operate a higher level of service – notionally 28tph – the concept timetable demonstrates a 2.5-minute frequency largely for ease of reading and comprehension. In any analysis, increasing the frequency to 28tph in total would add approximately four trains to the count of fleet and stabling.
- A 5-minute frequency is operated from each of Beaudesert and Flagstone during the peaks, to provide 24tph in total.
- Shoulder levels of service are 10-minute frequencies from Beaudesert, Ferny Grove, and Shorncliffe.

The analysis shows:

- A total of 81 trains is required to operate the service, for a fleet size of 85-89 once spares are considered.
- 29 trains start at Beaudesert in the morning, with a further 12 starting at Flagstone, and 9 starting at Salisbury.
- 16 trains start from Shorncliffe, with another 15 starting at Ferny Grove.
- 10 services at Flagstone are formed by second runs; 7 Ferny Grove services are formed by second runs; 7 Shorncliffe services are formed by second runs.
- 18 trains finish at Bowen Hills from the south to enter stabling during the interpeak; from the north, 35 trains finish service at Salisbury for interpeak stabling.
    - This necessitates a total of 53 trains stabled during the interpeak.

The current and prospective stabling on this sector is as follows:

- Mayne yard, through Cross River Rail, is divided into three sections with one section allocated to the Suburbans via the flyover. Counting the tracks in this yard indicates a stabling capacity in excess of 25 x 6-car trains.
- Banyo stabling yard is capable of holding 4 x 6-car trains[39], and appears capable of expansion to 6 x 6-cars[40].

This means there is an overall shortfall of approximately 50 trains of stabling on this sector, with the deficit largely on the southern side – which is to be expected, given that the locations on the southern side of the network do not have a rail service yet.

The capacity of Mayne yard is sufficient for both the Ferny Grove line services as well as the daytime interpeak services. Indeed, given the commentary about the lack of stabling in Mayne for the Coastal Line sector, it would appear to be necessary to revisit the plans for Mayne to redistribute some capacity from the Suburbans to the Coastal sector, through realigning the running road of CRR further to the west through Mayne.

39 Queensland Rail, For your information, SEQ Stabling Program - Banyo

40 Queensland Rail, South East Queensland Stabling, Site Selection Report, January 2014, page 4

Banyo stabling is insufficient for the start up of Shorncliffe services, however the land adjacent to the site appears to be large enough to cater for the demands of the line. Alternatively, there would appear to be ample space near the Brisbane Entertainment Centre. In any case, it is assumed that another 10 x 6-cars of stabling can be provided on the Shorncliffe line.

Providing stabling for Flagstone and Beaudesert is not considered a problem in and of itself, given the large amounts of relatively undeveloped land along the corridor currently, necessitating a strategic land purchase and corridor protection effort to facilitate this provision – noting especially that Flagstone is already becoming significantly developed. The detail will be in staging through delivery, as it is assumed that an extension to Flagstone would be the first stage and the stabling balance may change over time. Nevertheless, ultimately providing for 12 trains of stabling at Flagstone and a further 29 trains of stabling at Beaudesert should be readily achieved when constructing the line. It may also be worthwhile creating a train maintenance facility on this line, to cater for the Suburbans sector and create jobs within the local region.

In reviewing the current level of development at Flagstone, it appears that it is following the same ineffective tradition of nearly all Australian residential developments. Despite the understanding that a passenger service will one day start up – with even the interstate line already there – this would be the perfect opportunity to have staggered density radiating away from the station, and a good network of direct feeder roads to provide local bus services to connect to the trains. Instead, it appears the default of windy, circuitous roads with roundabouts and cul-de-sacs is prevailing, which is completely antithetical for delivering bus services – and of course, there is no high quality active transport infrastructure available – and enshrines car dependency forevermore.

The yard at – or more accurately, near – Salisbury would perform the same function at Mayne or Clapham, mainly being used for interpeak stabling near the city. A yard at Salisbury could conceivably be avoided through a larger yard at Flagstone, however this would result in excessive amounts of empty-running each day and a far higher operational cost overall. Given the nature of the industrial land through Archerfield and Acacia Ridge – including the major freight rail terminal – it is not considered a difficult task to find adequate stabling in this area.

The timetable presented here assumes that trains turn back at Salisbury during the day, however the track arrangement (see Figure 21) does not allow trains to turnback efficiently without crossing the Coastal sector tracks. For this reason, it is assumed (and allowed for in the timings) that Salisbury terminators would turnback somewhere on the Beaudesert line near to the junction – either at stabling yard, a dedicated turnback siding, or potentially at Acacia Ridge station. This development could form the first stage of the delivery of the line, as it would allow for improved travel times for Beenleigh and Gold Coast trains.

Given the above commentary and analysis, the indicative requirements for the Suburban sector are as follows:

- Stabling for 18 x 6-car trains at Mayne (Suburbans) yard
- Stabling for 16 x 6-car trains on the Shorncliffe line, an increase of 12 x 6-car trains currently
- Stabling for 35 x 6-car trains in the vicinity of Salisbury on the Beaudesert line
- Stabling for 29 x 6-car trains at Beaudesert
- Stabling for 12 x 6-car trains at Flagstone

It is also recommended that the CRR design for Mayne redistribute capacity from the current Suburbans provision to increase the CRR stabling capacity. It would also be worthwhile creating a direct connection from Mayne towards Ferny Grove, as this would prevent the need to run services via Roma Street in future and improve sectorisation.

The Coastal Line – Maroochydore, Gympie North, and Brisbane Airport to Beenleigh and Coolangatta

The Coastal Line is the most challenging timetable to develop, not only due to the complexity of the interactions between services of different origins and destinations, but also the level of uncertainty surrounding much of the infrastructure at this stage. By way of example, the quadruplication between Kuraby and Beenleigh recommended earlier in this document is assumed, but the alignment – and thus travel time – is left uncertain. A similar scenario holds for the MRL, the TRC, the extension of the Gold Coast line to Coolangatta, the impact on travel times of the new Gold Coast stations, and any realignment occurring with duplication of the Sunshine Coast line. As such, the travel times use a mix of current alignment (derived from the current timetable) and best endeavours with high-level modelling to try to reflect the future state as accurately as possible. While subsequent refinement and detailed modelling may change the outcomes slightly, it is not considered likely that the overall narrative will change significantly, and for the purposes of illustrating stabling and fleet requirements the concept timetables are adequate.

The timetable has been developed using the following assumptions:

- A 2.5-minute peak frequency for two hours, arrival into Albert Street between 700-900. The peak frequency is operated between Roma Street and Yeerongpilly – the length of the extended Cross River Rail.
- The Airport line operates via Wooloowin and Exhibition through Cross River Rail and to Beenleigh, stopping all-stations from Salisbury. It operates an unperturbed 15-minute pattern from start to finish, allowing for the single track between Airport Junction and International to be managed. In effect, this single line section sets the pattern for the entire sector.
    - Recall that the Airport services will operate amongst the Mains for a short section of track, without crossing conflicts, and with a dedicated platform at Wooloowin.
- Gold Coast trains operate all-stations between Beenleigh and Coolangatta, and express between Beenleigh and Salisbury stopping only at Loganlea. An underlying 15-minute pattern connects through to the MRL via the TRC.
- Beenleigh and Gold Coast services each operate every 5 minutes during the peak.
- Maroochydore services operate with an underlying 15-minute pattern to the Gold Coast, increasing to 7.5-minutes during the peaks. The stopping patterns vary between peak and off-peak, but always operate express between Caboolture and Roma Street, stopping only at Petrie and Strathpine. Travel times between stations vary during the different time periods to allow saturation of the tracks.
    - During the peak period, there is very little travel time saved by operating express on the TRC, meaning that it would be possible to add stops in without increasing journey time overall.
- Caboolture services operate with an underlying 15-minute pattern to Yeerongpilly, turning back in Clapham Yard, increasing to 7.5-minutes during the peaks, always stopping all stations. Throughout the day, these services provide the even 7.5 minute headway through CRR between Roma Street and Yeerongpilly.
- Gympie North and Nambour services operate through to Brisbane direct during the peak, while terminating at Beerwah during the off-peak. Peak services operate every 15 minutes from Nambour, with every second service extended to Gympie North. These services stop all-stations to Caboolture before operating the same pattern as the Maroochydore services. During the off-peak, the shuttles operate every 30 minutes to Nambour and hourly to Gympie North. Transfer time to MRL services is 4/5 minutes in all directions.
- Understanding that the Gold Coast and Sunshine Coast (per the MRL) are their own defined cities,

contra-peak services start earlier than the first outbound trains from Brisbane in order to cater for intra-regional travel needs.
- All services are considered to operate as 9-car trains.

Analysis of the timetable shows the following:

- A total of 21 trains start at Beenleigh, with 2 trains running towards the Gold Coast for early morning local services and the remaining 19 forming inbound services.
- 28 trains start at Coolangatta.
- 4 trains start at Exhibition (Mayne yard), while a further 8 trains start service from Yeerongpilly (Clapham yard), which includes provision for Airport services.
- 7 trains start at Gympie North, 4 at Beerwah, 4 at Nambour, 17 at Maroochydore, and 10 at Caboolture.
- The total number of trains in the timetable is 103, meaning a total fleet requirement of 108-113 9-car trains to cater for this sector.
- A total of 20 trains finish in the city from the south for interpeak stabling, while 31 trains finish in the city from the north of interpeak stabling. This takes the total interpeak stabling requirement to 51 trains.
- A total of 7 second runs are used to start services from Beenleigh; 3 serve Caboolture; 1 train supplies the Nambour off-peak shuttle via a second run. Second runs heading north are required to hold over at the third platform in Narangba to avoid disrupting other revenue services.

Current and anticipated stabling provision on this sector is as follows:

- As described earlier in this document, the currently available design for Mayne does not accommodate 9-car trains for the section of the yard that would cater for this sector. Notwithstanding this, and on the assumption that the roads could be extended (which appears possible for the drawings), there are 17 roads planned for Mayne yard.
- Similarly, the current drawings for Clapham were assessed earlier as potentially catering for 6 x 6-car roads, 14 x 9-car roads, and 4 x 12-car roads. At worst, this would allow 18 x 9-car roads, at best 24 x 9-car roads if all 6-car roads could be extended.
- Nambour has stabling for 3 x 6-car trains[41].
- The recently completed Woombye yard has stabling for 4 x 6-car trains, but with expansion able to cater for 8 x 9-car trains[42].
- Gympie North has stabling for 2 x 6-car trains[43].
- Elimbah has a yard of 8 x 6-car trains, expandable to 11 x 9-car trains41. This facility faces towards Caboolture.
- Caboolture has a yard of 11 x 6-car trains43, split on both sides of the station.
- Petrie appears to have one road of sufficient length to hold a 6-car train.
- Beenleigh yard has capacity for 8 x 6-cars, including two roads of 12-car length[44].
- The stabling yard at Robina has roads for 11 x 6-car trains, split across two yards either side of the main line[45].

41 Queensland Rail, South East Queensland Stabling, Site Selection Report, January 2014, page 7

42 Queensland Rail, South East Queensland Stabling, Site Selection Report, January 2014, page 4

43 SEQ Strategic stabling investigation, Draft final report, Volume 1: Scope definition, September 2012, page 7

44 SEQ Strategic stabling investigation, Draft final report, Volume 1: Scope definition, 2012, page 48

45 Queensland Rail Robina Stabling Project Newsletter November 2015

A modified Mayne yard may be capable of holding 17 of the 20 trains required during the interpeak, meaning that unless a modification to the design is forthcoming, 3 trains will need to continue further north beyond Strathpine for interpeak stabling.

Similarly, Clapham yard in its currently drawn form would cater for between 18-24 of the 31 trains required for interpeak stabling, leaving a sizeable contingent of 7-13 trains to continue further south.
The Beenleigh yard is not well configured in its current format, however the Strategic Stabling Investigation (SSI) noted the ability to expand and reconfigure the site to hold 10 x 9-car trains. However, even in this configuration it would cater for less than half the requirement. Fortunately, the SSI identified various large stabling sites suited for Beenleigh services, including several near Beenleigh, one at Mt Warren Park[46], and one near Ormeau[47]. Any of these sites, should they be able to accommodate at least 11 x 9-car trains, would be equally valid from an operational perspective. To categorise, these will be grouped as 'Beenleigh South' and assumed to be developed.

The existing Robina yard is both too small in terms of overall train numbers, and too short to accommodate 9-car trains – the existing roads cannot be extended without decking Mudgeeraba Creek. It is therefore considered unlikely that this facility could be used in the long term. Instead, the SSI identified two significant alternatives – one at Coolangatta, adjacent to the proposed Tugun station, and the other at Robina on the other side of Mudgeeraba Creek. The size of the potential facility at Robina could easily accommodate the 28 trains needed for Coolangatta, while the Coolangatta site would be more beneficial in terms of proximity the study identified the site as facing away from the terminus meaning that access and egress would need to occur via shunt movements. As in the case of the Beenleigh stabling, either or both could be made to work, and are grouped as 'Coolangatta Stabling' from this point onward and are assumed to be developed to cater for at least 28 trains.

As a point of observation, with approximately 50 trains being stabling in the Gold Coast region, it would be worthwhile providing a maintenance facility which could be co-located at either proposed yard, or at another site. This would provide regional jobs, and minimise the amount of running required to otherwise access a maintenance facility.

At the northern end of the sector, there are some immediate alignments between existing or proposed stabling and the requirements defined here. The Elimbah facility is capable of accommodating the Caboolture starters, to the point that the Caboolture stabling would become redundant – land that could potentially be redeveloped given its proximity to what will be a very well serviced station. The Woombye stabling yard is easily capable of catering for the Nambour starters, once again making the town centre stabling redundant.

Gympie North has a deficit of 5 trains, however the corridor is wide enough to cater for a reasonable stabling yard, and there is sufficient land available so as not to be a major issue.

For Beerwah and Maroochydore, the equation is slightly more complex. Maroochydore with the largest requirement of trains is significantly urbanised, and the nearest area of undeveloped land is between Caloundra and Beerwah. A stabling site here could service both Maroochydore and Beerwah starters, and is assumed to be the default position for this paper. Alternatively, there is land available south of Beerwah that could accommodate a small yard, and would be in the 'right' location to service Beerwah starters.
For Maroochydore, an extension through to the Sunshine Coast airport could provide access to the land

46 SEQ Strategic stabling investigation, Draft final report, Volume 2: Site Evaluation assessment and conclusions, 2012, page 219

47 SEQ Strategic stabling investigation, Draft final report, Volume 2: Site Evaluation assessment and conclusions, 2012, page 217

in the angle of the two runways which could potentially house a large stabling facility, and would have the additional benefit of minimising community impact by using land that could not otherwise be used for housing. Regardless of the outcome, it is considered that sufficient stabling can be provided either as combined yard, or across Beerwah and Airport yards.

Given the above, the stabling requirements in general are:

- Mayne yard of at least 17 x 9-cars, ideally 20 x 9-cars
- Clapham of at least 24 x 9-cars, ideally 31 x 9-cars
- Beenleigh South yard(s) of 21 x 9-cars
- Coolangatta stabling of 28 x 9-cars
- Expansion of Elimbah to cater for 10 x 9-cars
- Woombye stabling roads extended to accommodate 4 x 9-cars
- Expansion of Gympie North to cater for 5 x 9-cars
- Maroochydore yard(s) of 21 x 9-cars
- Nambour and Caboolture yards could be closed and repurposed

The other major difference in this corridor is the predominantly single-track railway north of Landsborough. Whereas all other sectors have been developed on the assumption that there are (at least) two tracks, the timing on inbound and outbound services between Landsborough and Gympie North is critical.

In assessing the off-peak timetable first, trains cross regularly at Mooloolah, Yandina, and Cooran, meaning that these locations would need at least second platforms. Fortunately Yandina and Cooran have second track passing loops, meaning that not only is it relatively easy to provide a second platform, but duplication around the station – which would provide greater robustness in the timetable by removing the need for 'exact' crossings – would be relatively straightforward as well.

During the morning peak, against a 15-minute frequency, outbound trains cross inbound trains regularly. A train departing Beerwah for Nambour just after 7am (the first contra-peak service assumed in the concept timetable) would cross at Landsborough, Mooloolah, and Eudlo. In the absence of full or partial duplication, these crossings could be made with an approximate 4-minute variation to the underlying off-peak timing and 3-4 minutes of additional travel time. An outbound train leaving earlier in the morning would cross at every station between Beerwah and Nambour, suffering a 15-minute penalty in travel time in the process, unless full or partial duplication was provided. In general, duplication between Palmwoods and Nambour would provide the biggest improvements to transit time and overall reliability, with this representing a reasonable first stage to full duplication.

The Clevewich Line – Cleveland to Rosewood and Ipswich

The timetable for the Clevewich line sees trains operating between Cleveland to Ipswich and Rosewood, based on the following assumptions:

- Every service between Roma Street and Cleveland stops all stations, while services on the western corridor run express between Milton and Darra, stopping only at Indooroopilly.
- A 15-minute off-peak service from start to finish of service between Ipswich and Cleveland, with only minor variations in the shoulder peak, and no service interval of more than 15 minutes. Every second service is extended to/from Rosewood, providing a 30 minute off-peak.
- A 2.5-minute (24tph) peak frequency for two hours, arrival into Roma Street between 700-900, departure from Central between 1630-1830.
- Shoulder peak levels of service of 10-minute frequency, for between 30-60 minutes either side of the peak.
- As there is no possibility of stabling between Roma Street and Darra (as described above in the analysis of the Mains timetable), all services are expected to operate between Roma Street to at least as far as Darra before heading to stabling. Similarly, given the section between Roma Street and Cannon Hill is in tunnel, all services are expected to operate between Roma Street to at least as far as Cannon Hill.
- It is assumed that trains on this sector could operate as 9-car trains to maximise the benefit of the new tunnel, and the relatively small number of stations that would require platform lengthening. While this does not impact the operations, the stabling will consider capacity for both 6 and 9-car operations.

The analysis shows:

- A total of 83 train sets are required for the operation of the timetable, meaning a total fleet requirement of 87-91 trains once maintenance and spares are considered.
- A total of 40 trains are required to start at Cleveland in the morning; 30 trains are required to start at Ipswich during the morning; 13 trains start at Rosewood during the morning.
- The Cleveland morning peak service makes use of seven trains empty running from Cannon Hill to form a second peak service; for Ipswich this number is 5 trains. No second runs form trains at Rosewood.
- A total of 32 trains from the west finish their working at Cannon Hill during the morning for inter-peak stabling; from Cleveland the number is 33 trains finishing at Darra.
    - The total amount of interpeak stabling is therefore 65 trains.

The current and prospective stabling provision on this sector is:

- Ipswich has stabling for 6 x 6-car trains, and 1 x 3-car trains[48].
- Redbank stabling yard has space for 6 x 6-car trains, with provision to expand to another 6 x 6-car trains[49].
- The only stabling on the Cleveland line is at Manly station, which has a yard capable of holding 2 x 6-car trains, while a third train is often held at the platform.

There is therefore a significant deficit for this sector, partially due to their current reliance on Mayne yard for supply. However, the previous stabling investigation found numerous available sites both in the outer west and on the Cleveland line that could be used to supply this level of service. Indeed, so many sites

48 SEQ Strategic stabling investigation, Draft final report, Volume 1: Scope definition, 2012, page 69

49 SEQ Strategic stabling investigation, Draft final report, Volume 1: Scope definition, 2012, page 62

were uncovered that a shortlisting had to be undertaken to narrow the focus of the study, resulting in preliminary designs for a number of stabling sites.

In the west, a stabling site was identified for Rosewood of 14 x 9-cars[50], with potential to expand to 24 x 9-car trains. As the requirement in this timetable is 13 trains starting at Rosewood, this immediately accommodates the overnight requirements regardless of train length.

A site at Wulkuraka was identified capable of holding 16 x 9-car trains. Although it was designed to face towards Rosewood, it could presumably be reorientated towards Ipswich. This could supply 16/30 Ipswich trains.

In the locale of Wulkuraka, there is the NGR stabling facility. It is unclear whether this facility could ever be used for 9-car trains – the roads and shed appear to be designed, from satellite imagery, to accommodate 6-car trains – however its role in supplying Ipswich services should be considered. Given the private nature of the NGR program, it is beyond the scope of this document to determine this availability.

The other shortlisted stabling sites – Wacol and Redbank – are on sites which face towards Brisbane, limiting their effectiveness for supplying Ipswich. The existing Redbank yard, if fully expanded, could accommodate 6 x 9-car trains. The existing Ipswich yard could supply 3 x 9-cars.

On balance, it is therefore considered that the stabling provision for start of service would comprise:

- 6 x 9-cars from Redbank to Ipswich
- 3 x 9-cars from Ipswich to Ipswich
- 16 x 9-cars from Wulkuraka to Ipswich
- 5 x 9-cars from Rosewood to Ipswich
- 13 x 9-cars from Rosewood to Rosewood

This necessitates a yard of 18 x 9-cars at Rosewood. If a 6-car operation was used instead, the Rosewood yard would shrink to 15 x 6-cars, with the existing Ipswich yard able to supply an additional 3 x 6-cars in the current configuration.
Given the number of stabling spaces available for overnight stabling, there is sufficient capacity available for the interpeak stabling. This would, however, cause fairly significant empty running costs and limit the ability for freight to operate between Corinda and Rosewood.

While there are generally fewer available stabling sites on the Cleveland line, there are still sufficient to cater for demand.

The shortlisted site at Birkdale faces towards Cleveland, and was capable of catering for up to 20 x 9-car trains, modifying the design from its original 30 x 7-car trains[51].

A site at Hemmant, facing towards both Cleveland and Brisbane, was designed to cater for 19 x 7-cars[52], but was noted as being expandable. Given the land availability, it is considered easily able to cater for 20 x 9-car trains.

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50 SEQ Strategic stabling investigation, Draft final report, Volume 2: Site Evaluation assessment and conclusions, 2012, page 165

51 SEQ Strategic stabling investigation, Draft final report, Volume 2: Site Evaluation assessment and conclusions, 2012, page 36

52 SEQ Strategic stabling investigation, Draft final report, Volume 2: Site Evaluation assessment and conclusions, 2012, page 41

Between these two yards, there is sufficient stabling capacity to cater for the overnight and interpeak stabling requirements, noting that Birkdale would be reasonably inefficient for the 12 trains stabled there during the day. Additional site variants at Hemmant were available, and it may be more efficient to explore the development of a larger interpeak stabling facility.

Given the above, the minimum requirements for new stabling facilities are:

- 18 x 9-cars at Rosewood
- 16 x 9-cars at Wulkuraka
- 20 x 9-cars at Birkdale
- 20 x 9-cars at Hemmant

The Shuttles – The Doomben Line, and Park Road to Cannon Hill

These have not been assessed in detail, however given their relatively short lengths the fleet requirement would be very small – less than 6 trains for each under basic cycle time calculations. In terms of stabling, the Doomben Line extends into (relatively) disused rail corridor and industrial land, so it should be relatively easy to find stabling options for a small fleet in this area. Trains servicing Park Road to Cannon Hill could be stabled at any number of yards, including Clapham overnight (given its use predominantly as an interpeak yard), or at additional space at a Hemmant yard (particularly if it was made larger for the purposes of stabling trains during the interpeak).

Freight

It is sometimes forgotten that the Brisbane network is, and will continue to be, largely shared between passenger and freight services. While small parts of the network can be or are segregated – the Tennyson branch, the dual gauge track between Park Road and the Port – there are still hundreds of kilometres of shared track – such as the entire length between Gympie North and Albion. A shared network can be fundamentally efficient, with the underlying asset serving two markets and making better utilisation of infrastructure during off-peak times, however it only works when proper planning and allowances are made to ensure that both customer sets can be catered for.

Unlike the passenger timetable, freight timetables and train paths are not (generally) publicly available, with a view that these commercial operators do not need to share their operating details. Freight traffic is usually tied to one or more ports and/or depots, meaning that discerning the exact paths required for freight is not possible as a public entity.

However, what is possible is to demonstrate the availability of generic freight paths through the network under the timetables that have been created for this assessment. The key aspect for freight paths is that they are able to run between two locations of refuge in between the passenger services, particularly when the freight path is required to cross between two passenger sectors. Again, while the details of freight train performance are not publicly available, the general 'rule of thumb' in timetabling is that a freight train should be able to run at roughly the same speed as an all-stations passenger train – this is largely confirmed by the limited information available from Queensland Rail[53].

There are two areas of freight pathing that have been investigated – between Gympie North and Exhibition (North Coast Line), and between the Tennyson branch at Corinda and the Exhibition loop at Roma Street (Western Line). In particular, the North Coast Line freight has the greatest complexity due to the need to run between two sectors, changing between the Mains and the Coastal sectors between Petrie and Strathpine. In effect, the freight paths identified in these timetables could be linked up to provide connectivity to/from the Port of Brisbane or the Acacia Ridge terminal, with the Exhibition loop allowing for the paths to be aligned away from revenue traffic.

53 Network Access WIP train plan, Caboolture to Rockhampton

Although there are other freight routes on the network, these have not been assessed in detail for the following reasons:

- Between Rosewood and Corinda – the Inland Rail project includes a new alignment between Calvert and Kagaru, which would bypass this section. It is unclear – but unlikely – that freight would continue to operate on the Suburban network inbound of Rosewood once this is completed.
- Between Lytton Junction (Port of Brisbane) and Yeerongpilly and Salisbury – one of the major benefits of the long tunnel for CRR is the dedicated freight track through this area, and therefore freight is considered to be segregated in the future. The capacity of a single freight track may not be sufficient, requiring passing loops to be provided, but this is impossible to ascertain from publicly available information.
- Between Park Road and Roma Street – with a dedicated freight network extending from Park Road to Yeerongpilly and Corinda, and paths available between Corinda and Roma Street, it is not considered necessary to continue to run freight through the South Bank area in future during normal operations.

Finally, the continued assumption of freight operating only in the off-peak periods remains valid for the areas assessed. Where freight segregation exists, there will be no need for a 'curfew', but in a fully utilised network during peak periods there is simply no room for freight services to operate.

North Coast Line – between Gympie North and Exhibition via Northgate

Through the heavily-utilised core of the network – south of Beerwah – it is possible to find freight paths every 15 minutes throughout the off-peak, in each direction. One of the beneficial side effects of developing a tiered passenger timetable which seeks to minimise transfer times is that the paths between different services are neatly aligned for freight services.

Travelling from the north, it is possible to operate non-stop freight services every 15 minutes through to the Exhibition loop. The area of interaction that has the narrowest margin is a freight train being followed closely by a train from the airport through Wooloowin. However, if this was found to be a source of delay or unacceptable risk, it is possible to instead hold the freight train on the middle track at Virginia and re-time the transition so that the freight train is behind passenger services in this area.

From the south, freight paths are also available every 15 minutes although these do require freight trains to be held on the middle track south of Strathpine to align the transition from the Mains to the Coastal sector north of Petrie. Beyond this, the paths are non-stop and have adequate spacing from passenger services.

Between Gympie North and Beerwah, the single track presents additional challenges. Due to the lack of publicly available information, it is not possible to define the level of additional investment (if any) required to operate the requisite number of freight trains through this area, however additional (and lengthened) passing loops and further duplication of key sections is likely to be required.

Western Line – between Corinda and the Exhibition loop via Roma Street

Under the assumption that the Clevewich line development sinks the Ipswich track pair before Roma Street, freight trains operating between Springfield services can access the Exhibition loop without crossing another sector. A freight train travelling from Tennyson to Exhibition therefore crosses an outbound Springfield train at Corinda, but has no crossing into Exhibition, while a train travelling the reverse route would have to cross an inbound Springfield train at Roma Street junction but no crossing to access Tennyson.

The relatively straightforward operation is of freight is made easier by the timetable design, which has inbound and outbound Springfield services crossing at Corinda which provides a 15-minute window for freight heading north. There are no issues with operating a freight train every 15 minutes in the northbound direction, with large margins between adjacent passenger trains.

For freight travelling towards Tennyson, paths are found every 15 minutes with the freight services being scheduled immediately following the outbound Springfield services. There is plenty of margin in the crossing, and operation of freight paths every 15 minutes could be provided reliably.

While there is no difficulty in scheduling the freight paths between the Springfield services, it is critical that the infrastructure is able to support – in this case, literally – the freight trains. It is understood that the Albert Bridge across the Brisbane River at Indooroopilly is not currently capable of supporting freight traffic[54], which would preclude the operation described here. While the best outcome would be to structurally reinforce the bridge to accommodate freight traffic, allowing the two passenger sectors to remain completely segregated including from a freight perspective, it is also possible to find freight paths every 15 minutes using a combination of both passenger sectors. This operation is made more robust by more complex junction trackwork between Roma Street and the Clevewich dive, to remove interaction between freight and Springfield line services at this end, but is nevertheless achievable. The strong preference is, however, to retain the full sectorisation and ensuring that the Springfield sector is capable of catering to freight trains.

Conclusion

The Minerva Plan has presented a detailed vision for a future rail network which covers more of Southeast Queensland, and provides improved frequencies and travel times for most users of the rail network. It is expected that the outcomes of the strategy provided here would be popular with communities, while leveraging the existing asset base to maximise capacity and reach for the minimum overall spend. Almost all elements of the strategy have been presented and assessed in varying levels of detail previously, meaning that the pathway to development is made easier and more efficient. In brief, the vision depicted and described throughout this document sets the stage for the maturing of the Queensland Rail network, enabling it to reach its full potential in readiness for the 'metro' phase of development which would likely come afterwards.

However, such a transformation is only possible if Cross River Rail is designed and built properly, so that it can serve its long-intended purpose to be the backbone of the future rail network. Almost all the themes described herein – from the expansion of services to Caloundra and the development of the Trouts Road Corridor in the north, to the delivery of the line to Beaudesert in the south – cannot be catered for by Cross River Rail as it is currently scoped. The lack of tunnel stubs effectively precludes the necessary expansions at a later date, condemning the Brisbane network to underutilised and inefficient future, while the removal of the previous northern connection means that no increase in frequency will be available from the north at all when compared to the current network with an ETCS upgrade.

To remove the constraint that the current design implies, and provide opportunities for future expansion of the network akin to that presented in this document, requires only three relatively minor, low cost changes to the current project:

- The reinstating of the previous northern connection as described in the 2017 business case. This would allow, in conjunction with signalling and platform upgrades, up to 30 trains per hour to operate from north of Northgate, compared to 24 trains otherwise.
- The provision of tunnel stubs at Roma Street station to allow connection to the Trouts Road Corridor in future. This will allow an ultimate capacity of 48 trains per hour from north of Strathpine, compared to 24 trains otherwise, as well as new catchment and substantially faster travel times from the Sunshine Coast.
- The provision of tunnel stubs at Park Road station to allow the tunnel to be extended to Yeerongpilly in the future, as per the original plans. This will ultimately allow for 48 trains per hour from south of Salisbury, as well as improving travel times to the Gold Coast and removing the freight curfew between the Port of Brisbane and Acacia Ridge including Inland Rail.

While the inclusion of these modifications allows the development of the rail network as described in the Minerva Plan, their omission conversely condemns the network to largely remain unchanged beyond the current design. Any attempt to extend Cross River Rail would result in lengthy network closures, greatly increasing the cost of any expansion and thereby increasing the barriers to network development. The right project now, combined with the right strategy, will set Southeast Queensland up for decades of sustainable development and improved quality of life.

It is recommended that the Cross River Rail project accept these changes as a matter of urgency.

Next steps and further studies

The following steps are recommended to further inform the network development strategy and to facilitate the efficient expansion and operation of the network going forward.

- Concept design and Strategic Business Case development
  For new corridors and extensions to the existing network, concept design (or updated concept design, as applicable) should be conducted to more fully define the technical requirements. These concept designs should be created in conjunction with an efficient Strategic Business Case process, which would interrogate the design options through an iterative design process to ensure that the best value for money was delivered. In providing concept design options, the travel times and service provision could be updated to the next level of detail, allowing a revision of the concept timetables created in this document. This process should be carried out for the following projects:
  - Cross River Rail Phase Two works. This would examine the long tunnel through to Yeerongpilly, the alignment and track amplification through to Salisbury, the station and platform arrangements, and the provision for the flyover to connect to the Flagstone/Beaudesert line.
  - Trouts Road Corridor. This would examine the extension from Roma Street through to Strathpine and Petrie, including the fourth track between Petrie and Strathpine, the Strathpine junction, and the intersection with the Ferny Grove line. Key in the refinement of the project would be the number and location of new stations between Roma Street and Strathpine, balancing coverage against travel time improvement.
  - Ripley Valley Line, Beaudesert Line, Maroochydore Line, and Gold Coast Line extensions. These would examine the extensions to the network, focussing on alignment, number and location of stations, and interface with the existing network.
  - Clevewich Line works. This would examine the new corridor from west of Roma Street through to Cannon Hill. The focus would be on staging the delivery, the best location to commence tunnelling from the west, the optimal alignment through the inner city including the number and location of stations, and the connectivity to the Cleveland line.
  - Kuraby to Beenleigh quadruplication. This would examine the most effective way of delivering the additional two track capacity through this section, whether in the existing corridor or along a new alignment, with the view to eventual modification to a high-speed corridor.

- Detailed design
  For the relatively smaller, more straightforward capacity enhancement projects required to expand the network, detailed design work should be undertaken. This should effectively bring all projects to ‘shovel ready’ status, enabling them to be put to market for construction when they are required. These projects include:
  - Cleveland line duplication.
  - Northgate to Mayne upgrade, comprising the additional platforms at Northgate and Wooloowin (or Eagle Junction), and the flyover to the airport line.
  - Shorncliffe line duplication.
  - Darra to Corinda fourth track, comprising the electrification of the existing track, reconfiguration of Corinda junction, and a fourth platform at Oxley.
  - South Brisbane to Park Road reconfiguration, comprising the new turnouts to facilitate turnback at South Brisbane, South Bank, and Park Road, and the reconfiguration of Park Road junction to minimise the impact of the flat junction crossings.

- Strategic land assessment and acquisition fund, and corridor protection
  There are significant amounts of new land required to facilitate the expansion of the strategy described herein, ranging from new or expanded corridors to new stabling facilities. Given that the long-term requirements are now understood, a fund should be developed to progressively acquire land in the locations where it will ultimately be needed. Doing this not only minimises the overall cost of acquisition by purchasing land before the value rises due to increased rail service delivery, but also allows for private dwellings (where required) to be purchased as they come onto the market, minimising the impact of compulsory acquisitions. Dwellings purchased in advance could be used for rental income, or for social housing.

- Sunshine Coast line assessment
  Given the freight usage on the line, the assessment of the Sunshine Coast line between Landsborough and Gympie North should undertake detailed freight requirement forecasting and overlay against the future passenger timetables to determine the optimal staging for duplication, including where realignment provides the most benefit. A concept design for complete duplication should be developed, as a fully duplicated railway should be ultimate goal in this area.

- Demand forecasting
  Against the backdrop of the strategy depicted in this document, demand forecasting should be undertaken to gauge the point at which the major capacity upgrades are required. This would focus on:
  - North of Northgate, identifying when the combined patronage from Nambour, Caboolture, and Kippa-Ring exceeds 30 trains per hour, triggering the need for the Trouts Road Corridor to be developed.
  - West of Milton, identifying when the combined patronage from Ipswich and Springfield exceeds 24 trains per hour, triggering the beginning of the Clevewich line.

- Network sectioning review and plan

- A network wide review of the available sectioning for maintenance closures, including a change to the way scheduled closures are undertaken to limit the impact to passengers. This should also include provision for planning in future corridors to develop with the ability to ideally keep at least one track open at all times, and two tracks in four track corridors.

References

1. [Request for Project Change 4. Volume 2: Design Drawings, May 2019, General arrangement sheets 23-25, https://crossriverrail.qld.gov.au/resources/rfpc4/025_General-Arrangement_23.pdf, https://crossriverrail.qld.gov.au/resources/rfpc4/025_General-Arrangement_24pdf, https://crossriverrail.qld.gov.au/resources/rfpc4/025_General-Arrangement_25.pdf].
2. Cross River Rail business case, August 2017, Chapter 6, page 140, Figure 6.11
3. https://buildingqueensland.qld.gov.au/wp-content/uploads/2017/08/Building-Queensland-Business-Case-LR.pdf
4. Cross River Rail EIS, July 2011, Chapter 4, page 4-61, Figure 4-27, http://eisdocs.dsdip.qld.gov.au/Completed%20Projects/Cross%20River%20Rail/EIS/EIS%2030%20Aug%202011/01%20Volume%201/04%20Project%20Description.pdf
5. Page 4, https://buildingqueensland.qld.gov.au/wp-content/uploads/2017/08/Building-Queensland-Business-Case-LR.pdf
6. Pages 58-61, https://buildingqueensland.qld.gov.au/wp-content/uploads/2017/08/Building-Queensland-Business-Case-LR.pdf
7. Page E6, https://buildingqueensland.qld.gov.au/wp-content/uploads/2017/08/Building-Queensland-Business-Case-LR.pdf
8. Page 48, https://buildingqueensland.qld.gov.au/wp-content/uploads/2017/08/Building-Queensland-Business-Case-LR.pdf
9. https://jp.translink.com.au/plan-your-journey/timetables/train
10. Based on the go-card data, for arrivals into the CBD, with the card 'touch-on' recorded before 8:30am, available at https://www.data.qld.gov.au/dataset/go-card-transaction-data
11. https://www.railjournal.com/signalling/etcs-for-brisbane-suburban-network/
12. https://crossriverrail.qld.gov.au/resources/rfpc4/025_General-Arrangement_23.pdf
13. http://eisdocs.dsdip.qld.gov.au/Cross%20River%20Rail/project-change-4/Volume%202/General%20arrangement%20drawings/General%20arrangement%204.pdf
14. Page 103, https://www.dsdmip.qld.gov.au/resources/plan/sip/sip-part-b-2019.pdf
15. https://www.railjournal.com/signalling/etcs-for-brisbane-suburban-network/
16. http://eisdocs.dsdip.qld.gov.au/Cross%20River%20Rail/project-change-application/volume-3-cross-river-rail-design-drawings-sections/section-2-general-arrangement-12.pdf
17. Page 141, https://buildingqueensland.qld.gov.au/wp-content/uploads/2017/08/Building-Queensland-Business-Case-LR.pdf
18. Page 79, https://buildingqueensland.qld.gov.au/wp-content/uploads/2017/08/Building-Queensland-Business-Case-LR.pdf
19. Pages 1-5, http://eisdocs.dsdip.qld.gov.au/Completed%20Projects/Cross%20River%20Rail/EIS/EIS%2030%20Aug%202011/01%20Volume%201/01%20Introduction.pdf
20. Page 79, https://buildingqueensland.qld.gov.au/wp-content/uploads/2017/08/Building-Queensland-Business-Case-LR.pdf
21. Pages 4-35, http://eisdocs.dsdip.qld.gov.au/Completed%20Projects/Cross%20River%20Rail/EIS/EIS%2030%20Aug%202011/01%20Volume%201/04%20Project%20Description.pdf
22. Cross River Rail EIS, July 2011, Chapter 4, Pages 4-42/43, http://eisdocs.dsdip.qld.gov.au/Completed%20Projects/Cross%20River%20Rail/EIS/EIS%2030%20Aug%202011/01%20Volume%201/04%20Project%20Description.pdf
23. http://eisdocs.dsdip.qld.gov.au/Cross%20River%20Rail/project-change-7/Volume%202/General%20arrangement%20drawings/general-arrangement-24.pdf

24. Page 2, https://www.brisbanetimes.com.au/multimedia/railmap.pdf
25. https://www.tmr.qld.gov.au/Projects/Name/B/Beerburrum-to-Nambour-Rail-Upgrade-Project
26. https://www.data.qld.gov.au/dataset/go-card-transaction-data/resource/b9a384df-0316-4efd-93f6-cc19455ad598, chosen as the last full month of data without holidays or potential COVID-19 impacts
27. Disability Standards for Accessible Public Transport 2002 (Transport Standards), https://www.legislation.gov.au/Details/F2011C00213 ; Disability Standards for Accessible Public Transport Guidelines 2004 (No 3), https://www.comlaw.gov.au/Details/F2005B01059/0d42e6f5-72ea-406a-a9ac-b311077b840c
28. https://www.sunshinecoast.qld.gov.au/Council/Planning-and-Projects/Major-Regional-Projects/Sunshine-Coast-Mass-Transit-Project
29. https://en.wikipedia.org/wiki/Spanish_solution
30. https://backontrack.org/docs/rti/cleveland/RTI995.pdf
31. https://www.brisbanetimes.com.au/national/queensland/brisbane-airport-pushes-for-new-skygate-dfo-train-station-20160815-gqt38s.html
32. This line is currently been upgraded to be a similar gauge to the Queensland Rail network – 1000mm vs 1067mm. Information including a track diagram is shown here: https://www.blt.ch/en/company/news/erneuerung-waldenburgerbahn.html
33. https://www.tmr.qld.gov.au/Projects/Name/I/Ipswich-to-Springfield-Public-Transport-Corridor-Study
34. http://railknowledgebank.com/Presto/content/GetDoc.axd?ctID=Y2Q1ODcyMDItZTRkZi00MmE2LWE0M2QtYzIxZTQxYjQ1Nzdi&rID=NzIz&pID=Nzky&attchmnt=True&uSesDM=False&rIdx=MTM1NQ==&rCFU=
35. http://eisdocs.dsdip.qld.gov.au/Cross%20River%20Rail/project-change-4/Volume%202/General%20arrangement%20drawings/General%20arrangement%2024.pdf
36. https://www.queenslandrail.com.au/Community/Projects/Documents/SEQSSI_Volume1ScopeDefinition_2012.pdf
37. https://www.queenslandrail.com.au/Community/Projects/Documents/SEQSSI_Volume2Site%20Evaluation_2012.pdf, page 123
38. https://www.queenslandrail.com.au/Community/Projects/Documents/Factsheet_SEQStabling_Banyo.pdf
39. SEQ Stabling Site Selection Report 2014, page 4, https://www.queenslandrail.com.au/Community/Projects/Documents/SEQStabling_SiteSelectionReport_2014.pdf
40. SEQ Stabling Site Selection Report 2014, page 7, https://www.queenslandrail.com.au/Community/Projects/Documents/SEQStabling_SiteSelectionReport_2014.pdf
41. SEQ Stabling Site Selection Report 2014, page 4
42. SEQSSI Volume 1, page 7, https://www.queenslandrail.com.au/Community/Projects/Documents/SEQSSI_Volume1ScopeDefinition_2012.pdf.
43. SEQSSI Volume 1, page 48
44. Queensland Rail Robina Stabling Project Newsletter November 2015, https://www.queenslandrail.com.au/Community/Projects/Documents/Robina%20newsletter%20-%20November%202015.pdf
45. SEQ SSI, Volume 2, page 219
46. SEQ SSI, Volume 2, page 217
47. SEQSSI Volume 1, Page 69, https://www.queenslandrail.com.au/Community/Projects/Documents/SEQSSI_Volume1ScopeDefinition_2012.pdf.
48. SEQSSI Volume 1, page 62
49. SEQSSI Volume 2, page 165, https://www.queenslandrail.com.au/Community/Projects/Documents/SEQSSI_Volume2Site%20Evaluation_2012.pdf
50. SEQSSI Volume 2, page 36
51. SEQSSI Volume 2, page 41
52. Network Access WIP train plan, Caboolture to Rockhampton, https://www.queenslandrail.com.au/business/acccess/Master%20Train%20Plans%20%20North%20Coast%20line%20system/CAB%20to%20ROK%20Friday.pdf
53. Queensland Government Heritage Register, https://apps.des.qld.gov.au/heritage-register/detail/?id=600232

Appendix One - end state timetables

Mains sector

Springfield Central	4:30	4:45	5:00	5:15	5:30	5:45	5:55	6:05	6:15	6:18	6:21	6:24	6:27	6:30	6:33	6:36	6:39	6:42	6:45
Springfield	4:33	4:48	5:03	5:18	5:33	5:48	5:58	6:08	6:18	6:21	6:24	6:27	6:30	6:33	6:36	6:39	6:42	6:45	6:48
Richlands	4:39	4:54	5:09	5:24	5:39	5:54	6:04	6:14	6:24	6:27	6:30	6:33	6:36	6:39	6:42	6:45	6:48	6:51	6:54
Darra	4:43	4:58	5:13	5:28	5:43	5:58	6:08	6:18	6:28	6:31	6:34	6:37	6:40	6:43	6:46	6:49	6:52	6:55	6:58
Oxley	4:46	5:01	5:16	5:31	5:46	6:01	6:11	6:21	6:31	6:34	6:37	6:40	6:43	6:46	6:49	6:52	6:55	6:58	7:01
Corinda	4:49	5:04	5:19	5:34	5:49	6:04	6:14	6:24	6:34	6:37	6:40	6:43	6:46	6:49	6:52	6:55	6:58	7:01	7:04
Sherwood	4:51	5:06	5:21	5:36	5:51	6:06	6:16	6:26	6:36	6:39	6:42	6:45	6:48	6:51	6:54	6:57	7:00	7:03	7:06
Graceville	4:53	5:08	5:23	5:38	5:53	6:08	6:18	6:28	6:38	6:41	6:44	6:47	6:50	6:53	6:56	6:59	7:02	7:05	7:08
Chelmer	4:55	5:10	5:25	5:40	5:55	6:10	6:20	6:30	6:40	6:43	6:46	6:49	6:52	6:55	6:58	7:01	7:04	7:07	7:10
Indooroopilly	4:57	5:12	5:27	5:42	5:57	6:12	6:22	6:32	6:42	6:45	6:48	6:51	6:54	6:57	7:00	7:03	7:06	7:09	7:12
Taringa	4:59	5:14	5:29	5:44	5:59	6:14	6:24	6:34	6:44	6:47	6:50	6:53	6:56	6:59	7:02	7:05	7:08	7:11	7:14
Toowong	5:02	5:17	5:32	5:47	6:02	6:17	6:27	6:37	6:47	6:50	6:53	6:56	6:59	7:02	7:05	7:08	7:11	7:14	7:17
Auchenflower	5:04	5:19	5:34	5:49	6:04	6:19	6:29	6:39	6:49	6:52	6:55	6:58	7:01	7:04	7:07	7:10	7:13	7:16	7:19
Milton	5:06	5:21	5:36	5:51	6:06	6:21	6:31	6:41	6:51	6:54	6:57	7:00	7:03	7:06	7:09	7:12	7:15	7:18	7:21
Roma Street	5:09	5:24	5:39	5:54	6:09	6:24	6:34	6:44	6:54	6:57	7:00	7:03	7:06	7:09	7:12	7:15	7:18	7:21	7:24
Central	5:13	5:28	5:43	5:58	6:13	6:28	6:38	6:48	6:58	7:01	7:04	7:07	7:10	7:13	7:16	7:19	7:22	7:25	7:28
Fortitude Valley	5:15	5:30	5:45	6:00	6:15	6:30	6:40	6:50	7:00	7:03	7:06	7:09	7:12	7:15	7:18	7:21	7:24	7:27	7:30
Bowen Hills	5:17	5:32	5:47	6:02	6:17	6:32	6:42	6:52	7:02	7:05	7:08	7:11	7:14	7:17	7:20	7:23	7:26	7:29	7:32
Wooloowin	5:21	5:36	5:51	6:06	6:21	6:36	6:46	6:56	7:06	(07:09)		(07:15)		7:21					7:36
Northgate	5:26	5:41	5:56	6:11	6:26	6:41	6:51	7:01	7:11	(07:14)		(07:20)		7:26					7:41
Virginia	5:28	5:43	5:58	6:13	6:28	6:43	6:53	7:03	7:13	(07:16)		(07:22)		7:28					7:43
Sunshine	5:29	5:44	5:59	6:14	6:29	6:44	6:54	7:04	7:14	(07:17)		(07:23)		7:29					7:44
Geebung	5:31	5:46	6:01	6:16	6:31	6:46	6:56	7:06	7:16	(07:19)		(07:25)		7:31					7:46
Zillmere	5:33	5:48	6:03	6:18	6:33	6:48	6:58	7:08	7:18	(07:21)		(07:27)		7:33					7:48
Carseldine	5:36	5:51	6:06	6:21	6:36	6:51	7:01	7:11	7:21	(07:24)		(07:30)		7:36					7:51
Bald Hills	5:39	5:54	6:09	6:24	6:39	6:54	7:04	7:14	7:24	(07:27)		(07:33)		7:39					7:54
Strathpine	5:42	5:57	6:12	6:27	6:42	6:57	7:07	7:17	7:27	(07:30)		(07:36)		7:42					7:57
Bray Park	5:44	5:59	6:14	6:29	6:44	6:59	7:09	7:19	7:29	(07:32)		(07:38)		7:44					7:59
Lawnton	5:47	6:02	6:17	6:32	6:47	7:02	7:12	7:22	7:32	(07:35)		(07:41)		7:47					8:02
Petrie	5:50	6:05	6:20	6:35	6:50	7:05	7:15	7:25	7:35	(07:38)		(07:44)		7:50					8:05
Kallangur	5:53	6:08	6:23	6:38	6:53	7:08	7:18	7:28	7:38	(07:41)		(07:47)		7:53					8:08
Murrumba Downs	5:55	6:10	6:25	6:40	6:55	7:10	7:20	7:30	7:40	(07:43)		(07:49)		7:55					8:10
Mango Hill	5:58	6:13	6:28	6:43	6:58	7:13	7:23	7:33	7:43	(07:46)		(07:52)		7:58					8:13
Mango Hill East	6:00	6:15	6:30	6:45	7:00	7:15	7:25	7:35	7:45	(07:48)		(07:54)		8:00					8:15
Rothwell	6:03	6:18	6:33	6:48	7:03	7:18	7:28	7:38	7:48	(07:51)		(07:57)		8:03					8:18
Kippa-Ring	6:07	6:22	6:37	6:52	7:07	7:22	7:32	7:42	7:52	(07:55)		(08:01)		8:07					8:22

Springfield Central	6:48	6:51	6:54	6:57	7:00	7:03	7:06	7:09	7:12	7:15	7:18	7:21	7:24	7:27	7:30	7:33	7:36	7:39	7:42
Springfield	6:51	6:54	6:57	7:00	7:03	7:06	7:09	7:12	7:15	7:18	7:21	7:24	7:27	7:30	7:33	7:36	7:39	7:42	7:45
Richlands	6:57	7:00	7:03	7:06	7:09	7:12	7:15	7:18	7:21	7:24	7:27	7:30	7:33	7:36	7:39	7:42	7:45	7:48	7:51
Darra	7:01	7:04	7:07	7:10	7:13	7:16	7:19	7:22	7:25	7:28	7:31	7:34	7:37	7:40	7:43	7:46	7:49	7:52	7:55
Oxley	7:04	7:07	7:10	7:13	7:16	7:19	7:22	7:25	7:28	7:31	7:34	7:37	7:40	7:43	7:46	7:49	7:52	7:55	7:58
Corinda	7:07	7:10	7:13	7:16	7:19	7:22	7:25	7:28	7:31	7:34	7:37	7:40	7:43	7:46	7:49	7:52	7:55	7:58	8:01
Sherwood	7:09	7:12	7:15	7:18	7:21	7:24	7:27	7:30	7:33	7:36	7:39	7:42	7:45	7:48	7:51	7:54	7:57	8:00	8:03
Graceville	7:11	7:14	7:17	7:20	7:23	7:26	7:29	7:32	7:35	7:38	7:41	7:44	7:47	7:50	7:53	7:56	7:59	8:02	8:05
Chelmer	7:13	7:16	7:19	7:22	7:25	7:28	7:31	7:34	7:37	7:40	7:43	7:46	7:49	7:52	7:55	7:58	8:01	8:04	8:07
Indooroopilly	7:15	7:18	7:21	7:24	7:27	7:30	7:33	7:36	7:39	7:42	7:45	7:48	7:51	7:54	7:57	8:00	8:03	8:06	8:09
Taringa	7:17	7:20	7:23	7:26	7:29	7:32	7:35	7:38	7:41	7:44	7:47	7:50	7:53	7:56	7:59	8:02	8:05	8:08	8:11
Toowong	7:20	7:23	7:26	7:29	7:32	7:35	7:38	7:41	7:44	7:47	7:50	7:53	7:56	7:59	8:02	8:05	8:08	8:11	8:14
Auchenflower	7:22	7:25	7:28	7:31	7:34	7:37	7:40	7:43	7:46	7:49	7:52	7:55	7:58	8:01	8:04	8:07	8:10	8:13	8:16
Milton	7:24	7:27	7:30	7:33	7:36	7:39	7:42	7:45	7:48	7:51	7:54	7:57	8:00	8:03	8:06	8:09	8:12	8:15	8:18
Roma Street	7:27	7:30	7:33	7:36	7:39	7:42	7:45	7:48	7:51	7:54	7:57	8:00	8:03	8:06	8:09	8:12	8:15	8:18	8:21
Central	7:31	7:34	7:37	7:40	7:43	7:46	7:49	7:52	7:55	7:58	8:01	8:04	8:07	8:10	8:13	8:16	8:19	8:22	8:25
Fortitude Valley	7:33	7:36	7:39	7:42	7:45	7:48	7:51	7:54	7:57	8:00	8:03	8:06	8:09	8:12	8:15	8:18	8:21	8:24	8:27
Bowen Hills	7:35	7:38	7:41	7:44	7:47	7:50	7:53	7:56	7:59	8:02	8:05	8:08	8:11	8:14	8:17	8:20	8:23	8:26	8:29
Wooloowin					7:51					8:06					8:21				
Northgate					7:56					8:11					8:26				
Virginia					7:58					8:13					8:28				
Sunshine					7:59					8:14					8:29				
Geebung					8:01					8:16					8:31				
Zillmere					8:03					8:18					8:33				
Carseldine					8:06					8:21					8:36				
Bald Hills					8:09					8:24					8:39				
Strathpine					8:12					8:27					8:42				
Bray Park					8:14					8:29					8:44				
Lawnton					8:17					8:32					8:47				
Petrie					8:20					8:35					8:50				
Kallangur					8:23					8:38					8:53				
Murrumba Downs					8:25					8:40					8:55				
Mango Hill					8:28					8:43					8:58				
Mango Hill East					8:30					8:45					9:00				
Rothwell					8:33					8:48					9:03				
Kippa-Ring					8:37					8:52					9:07				

Springfield Central	7:45	7:48	7:51	7:54	7:57	8:00	8:03	8:06	8:09	8:12	8:15	8:25	8:35	8:45	9:00	9:15	9:30	9:45	10:00
Springfield	7:48	7:51	7:54	7:57	8:00	8:03	8:06	8:09	8:12	8:15	8:18	8:28	8:38	8:48	9:03	9:18	9:33	9:48	10:03
Richlands	7:54	7:57	8:00	8:03	8:06	8:09	8:12	8:15	8:18	8:21	8:24	8:34	8:44	8:54	9:09	9:24	9:39	9:54	10:09
Darra	7:58	8:01	8:04	8:07	8:10	8:13	8:16	8:19	8:22	8:25	8:28	8:38	8:48	8:58	9:13	9:28	9:43	9:58	10:13
Oxley	8:01	8:04	8:07	8:10	8:13	8:16	8:19	8:22	8:25	8:28	8:31	8:41	8:51	9:01	9:16	9:31	9:46	10:01	10:16
Corinda	8:04	8:07	8:10	8:13	8:16	8:19	8:22	8:25	8:28	8:31	8:34	8:44	8:54	9:04	9:19	9:34	9:49	10:04	10:19
Sherwood	8:06	8:09	8:12	8:15	8:18	8:21	8:24	8:27	8:30	8:33	8:36	8:46	8:56	9:06	9:21	9:36	9:51	10:06	10:21
Graceville	8:08	8:11	8:14	8:17	8:20	8:23	8:26	8:29	8:32	8:35	8:38	8:48	8:58	9:08	9:23	9:38	9:53	10:08	10:23
Chelmer	8:10	8:13	8:16	8:19	8:22	8:25	8:28	8:31	8:34	8:37	8:40	8:50	9:00	9:10	9:25	9:40	9:55	10:10	10:25
Indooroopilly	8:12	8:15	8:18	8:21	8:24	8:27	8:30	8:33	8:36	8:39	8:42	8:52	9:02	9:12	9:27	9:42	9:57	10:12	10:27
Taringa	8:14	8:17	8:20	8:23	8:26	8:29	8:32	8:35	8:38	8:41	8:44	8:54	9:04	9:14	9:29	9:44	9:59	10:14	10:29
Toowong	8:17	8:20	8:23	8:26	8:29	8:32	8:35	8:38	8:41	8:44	8:47	8:57	9:07	9:17	9:32	9:47	10:02	10:17	10:32
Auchenflower	8:19	8:22	8:25	8:28	8:31	8:34	8:37	8:40	8:43	8:46	8:49	8:59	9:09	9:19	9:34	9:49	10:04	10:19	10:34
Milton	8:21	8:24	8:27	8:30	8:33	8:36	8:39	8:42	8:45	8:48	8:51	9:01	9:11	9:21	9:36	9:51	10:06	10:21	10:36
Roma Street	8:24	8:27	8:30	8:33	8:36	8:39	8:42	8:45	8:48	8:51	8:54	9:04	9:14	9:24	9:39	9:54	10:09	10:24	10:39
Central	8:28	8:31	8:34	8:37	8:40	8:43	8:46	8:49	8:52	8:55	8:58	9:08	9:18	9:28	9:43	9:58	10:13	10:28	10:43
Fortitude Valley	8:30	8:33	8:36	8:39	8:42	8:45	8:48	8:51	8:54	8:57	9:00	9:10	9:20	9:30	9:45	10:00	10:15	10:30	10:45
Bowen Hills	8:32	8:35	8:38	8:41	8:44	8:47	8:50	8:53	8:56	8:59	9:02	9:12	9:22	9:32	9:47	10:02	10:17	10:32	10:47
Wooloowin	8:36					8:51					9:06	9:16	9:26	9:36	9:51	10:06	10:21	10:36	10:51
Northgate	8:41					8:56					9:11	9:21	9:31	9:41	9:56	10:11	10:26	10:41	10:56
Virginia	8:43					8:58					9:13	9:23	9:33	9:43	9:58	10:13	10:28	10:43	10:58
Sunshine	8:44					8:59					9:14	9:24	9:34	9:44	9:59	10:14	10:29	10:44	10:59
Geebung	8:46					9:01					9:16	9:26	9:36	9:46	10:01	10:16	10:31	10:46	11:01
Zillmere	8:48					9:03					9:18	9:28	9:38	9:48	10:03	10:18	10:33	10:48	11:03
Carseldine	8:51					9:06					9:21	9:31	9:41	9:51	10:06	10:21	10:36	10:51	11:06
Bald Hills	8:54					9:09					9:24	9:34	9:44	9:54	10:09	10:24	10:39	10:54	11:09
Strathpine	8:57					9:12					9:27	9:37	9:47	9:57	10:12	10:27	10:42	10:57	11:12
Bray Park	8:59					9:14					9:29	9:39	9:49	9:59	10:14	10:29	10:44	10:59	11:14
Lawnton	9:02					9:17					9:32	9:42	9:52	10:02	10:17	10:32	10:47	11:02	11:17
Petrie	9:05					9:20					9:35	9:45	9:55	10:05	10:20	10:35	10:50	11:05	11:20
Kallangur	9:08					9:23					9:38	9:48	9:58	10:08	10:23	10:38	10:53	11:08	11:23
Murrumba Downs	9:10					9:25					9:40	9:50	10:00	10:10	10:25	10:40	10:55	11:10	11:25
Mango Hill	9:13					9:28					9:43	9:53	10:03	10:13	10:28	10:43	10:58	11:13	11:28
Mango Hill East	9:15					9:30					9:45	9:55	10:05	10:15	10:30	10:45	11:00	11:15	11:30
Rothwell	9:18					9:33					9:48	9:58	10:08	10:18	10:33	10:48	11:03	11:18	11:33
Kippa-Ring	9:22					9:37					9:52	10:02	10:12	10:22	10:37	10:52	11:07	11:22	11:37

Kippa-Ring	4:30	4:45	5:00	5:15	5:30	5:40	5:50	6:00	6:03	6:06	6:09	6:12	6:15	6:18	6:21	6:24	6:27	6:30	6:33
Rothwell	4:34	4:49	5:04	5:19	5:34	5:44	5:54	6:04	6:07	6:10	6:13	6:16	6:19	6:22	6:25	6:28	6:31	6:34	6:37
Mango Hill East	4:36	4:51	5:06	5:21	5:36	5:46	5:56	6:06	6:09	6:12	6:15	6:18	6:21	6:24	6:27	6:30	6:33	6:36	6:39
Mango Hill	4:39	4:54	5:09	5:24	5:39	5:49	5:59	6:09	6:12	6:15	6:18	6:21	6:24	6:27	6:30	6:33	6:36	6:39	6:42
Murrumba Downs	4:41	4:56	5:11	5:26	5:41	5:51	6:01	6:11	6:14	6:17	6:20	6:23	6:26	6:29	6:32	6:35	6:38	6:41	6:44
Kallangur	4:43	4:58	5:13	5:28	5:43	5:53	6:03	6:13	6:16	6:19	6:22	6:25	6:28	6:31	6:34	6:37	6:40	6:43	6:46
Petrie	4:46	5:01	5:16	5:31	5:46	5:56	6:06	6:16	6:19	6:22	6:25	6:28	6:31	6:34	6:37	6:40	6:43	6:46	6:49
Lawnton	4:48	5:03	5:18	5:33	5:48	5:58	6:08	6:18	6:21	6:24	6:27	6:30	6:33	6:36	6:39	6:42	6:45	6:48	6:51
Bray Park	4:51	5:06	5:21	5:36	5:51	6:01	6:11	6:21	6:24	6:27	6:30	6:33	6:36	6:39	6:42	6:45	6:48	6:51	6:54
Strathpine	4:53	5:08	5:23	5:38	5:53	6:03	6:13	6:23	6:26	6:29	6:32	6:35	6:38	6:41	6:44	6:47	6:50	6:53	6:56
Bald Hills	4:56	5:11	5:26	5:41	5:56	6:06	6:16	6:26	6:29	6:32	6:35	6:38	6:41	6:44	6:47	6:50	6:53	6:56	6:59
Carseldine	5:00	5:15	5:30	5:45	6:00	6:10	6:20	6:30	6:33	6:36	6:39	6:42	6:45	6:48	6:51	6:54	6:57	7:00	7:03
Zillmere	5:02	5:17	5:32	5:47	6:02	6:12	6:22	6:32	6:35	6:38	6:41	6:44	6:47	6:50	6:53	6:56	6:59	7:02	7:05
Geebung	5:04	5:19	5:34	5:49	6:04	6:14	6:24	6:34	6:37	6:40	6:43	6:46	6:49	6:52	6:55	6:58	7:01	7:04	7:07
Sunshine	5:06	5:21	5:36	5:51	6:06	6:16	6:26	6:36	6:39	6:42	6:45	6:48	6:51	6:54	6:57	7:00	7:03	7:06	7:09
Virginia	5:08	5:23	5:38	5:53	6:08	6:18	6:28	6:38	6:41	6:44	6:47	6:50	6:53	6:56	6:59	7:02	7:05	7:08	7:11
Northgate	5:11	5:26	5:41	5:56	6:11	6:21	6:31	6:41	6:44	6:47	6:50	6:53	6:56	6:59	7:02	7:05	7:08	7:11	7:14
Wooloowin	5:16	5:31	5:46	6:01	6:16	6:26	6:36	6:46	6:49	6:52	6:55	6:58	7:01	7:04	7:07	7:10	7:13	7:16	7:19
Bowen Hills	5:21	5:36	5:51	6:06	6:21	6:31	6:41	6:51	6:54	6:57	7:00	7:03	7:06	7:09	7:12	7:15	7:18	7:21	7:24
Fortitude Valley	5:23	5:38	5:53	6:08	6:23	6:33	6:43	6:53	6:56	6:59	7:02	7:05	7:08	7:11	7:14	7:17	7:20	7:23	7:26
Central	5:27	5:42	5:57	6:12	6:27	6:37	6:47	6:57	7:00	7:03	7:06	7:09	7:12	7:15	7:18	7:21	7:24	7:27	7:30
Roma Street	5:29	5:44	5:59	6:14	6:29	6:39	6:49	6:59	7:02	7:05	7:08	7:11	7:14	7:17	7:20	7:23	7:26	7:29	7:32
Milton	5:32	5:47	6:02	6:17	6:32	6:42	6:52	7:02	(07:05)	(07:08)	(07:11)	(07:14)	7:17	(07:20)	(07:23)	(07:26)	(07:29)	7:32	(07:35)
Auchenflower	5:34	5:49	6:04	6:19	6:34	6:44	6:54	7:04	(07:07)	(07:10)	(07:13)	(07:16)	7:19	(07:22)	(07:25)	(07:28)	(07:31)	7:34	(07:37)
Toowong	5:36	5:51	6:06	6:21	6:36	6:46	6:56	7:06	(07:09)	(07:12)	(07:15)	(07:18)	7:21	(07:24)	(07:27)	(07:30)	(07:33)	7:36	(07:39)
Taringa	5:39	5:54	6:09	6:24	6:39	6:49	6:59	7:09	(07:12)	(07:15)	(07:18)	(07:21)	7:24	(07:27)	(07:30)	(07:33)	(07:36)	7:39	(07:42)
Indooroopilly	5:41	5:56	6:11	6:26	6:41	6:51	7:01	7:11	(07:14)	(07:17)	(07:20)	(07:23)	7:26	(07:29)	(07:32)	(07:35)	(07:38)	7:41	(07:44)
Chelmer	5:43	5:58	6:13	6:28	6:43	6:53	7:03	7:13	(07:16)	(07:19)	(07:22)	(07:25)	7:28	(07:31)	(07:34)	(07:37)	(07:40)	7:43	(07:46)
Graceville	5:45	6:00	6:15	6:30	6:45	6:55	7:05	7:15	(07:18)	(07:21)	(07:24)	(07:27)	7:30	(07:33)	(07:36)	(07:39)	(07:42)	7:45	(07:48)
Sherwood	5:47	6:02	6:17	6:32	6:47	6:57	7:07	7:17	(07:20)	(07:23)	(07:26)	(07:29)	7:32	(07:35)	(07:38)	(07:41)	(07:44)	7:47	(07:50)
Corinda	5:49	6:04	6:19	6:34	6:49	6:59	7:09	7:19	(07:22)	(07:25)	(07:28)	(07:31)	7:34	(07:37)	(07:40)	(07:43)	(07:46)	7:49	(07:52)
Oxley	5:52	6:07	6:22	6:37	6:52	7:02	7:12	7:22	(07:25)	(07:28)	(07:31)	(07:34)	7:37	(07:40)	(07:43)	(07:46)	(07:49)	7:52	(07:55)
Darra	5:55	6:10	6:25	6:40	6:55	7:05	7:15	7:25	(07:28)	(07:31)	(07:34)	(07:37)	7:40	(07:43)	(07:46)	(07:49)	(07:52)	7:55	(07:58)
Richlands	5:59	6:14	6:29	6:44	6:59	7:09	7:19	7:29	(07:32)	(07:35)	(07:38)	(07:41)	7:44	(07:47)	(07:50)	(07:53)	(07:56)	7:59	(08:02)
Springfield	6:05	6:20	6:35	6:50	7:05	7:15	7:25	7:35	(07:38)	(07:41)	(07:44)	(07:47)	7:50	(07:53)	(07:56)	(07:59)	(08:02)	8:05	(08:08)
Springfield Central	6:08	6:23	6:38	6:53	7:08	7:18	7:28	7:38	(07:41)	(07:44)	(07:47)	(07:50)	7:53	(07:56)	(07:59)	(08:02)	(08:05)	8:08	(08:11)

Kippa-Ring	6:36	6:39	6:42	6:45	6:48	6:51	6:54	6:57	7:00	7:03	7:06	7:09	7:12	7:15	7:18	7:21	7:24	7:27	7:30
Rothwell	6:40	6:43	6:46	6:49	6:52	6:55	6:58	7:01	7:04	7:07	7:10	7:13	7:16	7:19	7:22	7:25	7:28	7:31	7:34
Mango Hill East	6:42	6:45	6:48	6:51	6:54	6:57	7:00	7:03	7:06	7:09	7:12	7:15	7:18	7:21	7:24	7:27	7:30	7:33	7:36
Mango Hill	6:45	6:48	6:51	6:54	6:57	7:00	7:03	7:06	7:09	7:12	7:15	7:18	7:21	7:24	7:27	7:30	7:33	7:36	7:39
Murrumba Downs	6:47	6:50	6:53	6:56	6:59	7:02	7:05	7:08	7:11	7:14	7:17	7:20	7:23	7:26	7:29	7:32	7:35	7:38	7:41
Kallangur	6:49	6:52	6:55	6:58	7:01	7:04	7:07	7:10	7:13	7:16	7:19	7:22	7:25	7:28	7:31	7:34	7:37	7:40	7:43
Petrie	6:52	6:55	6:58	7:01	7:04	7:07	7:10	7:13	7:16	7:19	7:22	7:25	7:28	7:31	7:34	7:37	7:40	7:43	7:46
Lawnton	6:54	6:57	7:00	7:03	7:06	7:09	7:12	7:15	7:18	7:21	7:24	7:27	7:30	7:33	7:36	7:39	7:42	7:45	7:48
Bray Park	6:57	7:00	7:03	7:06	7:09	7:12	7:15	7:18	7:21	7:24	7:27	7:30	7:33	7:36	7:39	7:42	7:45	7:48	7:51
Strathpine	6:59	7:02	7:05	7:08	7:11	7:14	7:17	7:20	7:23	7:26	7:29	7:32	7:35	7:38	7:41	7:44	7:47	7:50	7:53
Bald Hills	7:02	7:05	7:08	7:11	7:14	7:17	7:20	7:23	7:26	7:29	7:32	7:35	7:38	7:41	7:44	7:47	7:50	7:53	7:56
Carseldine	7:06	7:09	7:12	7:15	7:18	7:21	7:24	7:27	7:30	7:33	7:36	7:39	7:42	7:45	7:48	7:51	7:54	7:57	8:00
Zillmere	7:08	7:11	7:14	7:17	7:20	7:23	7:26	7:29	7:32	7:35	7:38	7:41	7:44	7:47	7:50	7:53	7:56	7:59	8:02
Geebung	7:10	7:13	7:16	7:19	7:22	7:25	7:28	7:31	7:34	7:37	7:40	7:43	7:46	7:49	7:52	7:55	7:58	8:01	8:04
Sunshine	7:12	7:15	7:18	7:21	7:24	7:27	7:30	7:33	7:36	7:39	7:42	7:45	7:48	7:51	7:54	7:57	8:00	8:03	8:06
Virginia	7:14	7:17	7:20	7:23	7:26	7:29	7:32	7:35	7:38	7:41	7:44	7:47	7:50	7:53	7:56	7:59	8:02	8:05	8:08
Northgate	7:17	7:20	7:23	7:26	7:29	7:32	7:35	7:38	7:41	7:44	7:47	7:50	7:53	7:56	7:59	8:02	8:05	8:08	8:11
Wooloowin	7:22	7:25	7:28	7:31	7:34	7:37	7:40	7:43	7:46	7:49	7:52	7:55	7:58	8:01	8:04	8:07	8:10	8:13	8:16
Bowen Hills	7:27	7:30	7:33	7:36	7:39	7:42	7:45	7:48	7:51	7:54	7:57	8:00	8:03	8:06	8:09	8:12	8:15	8:18	8:21
Fortitude Valley	7:29	7:32	7:35	7:38	7:41	7:44	7:47	7:50	7:53	7:56	7:59	8:02	8:05	8:08	8:11	8:14	8:17	8:20	8:23
Central	7:33	7:36	7:39	7:42	7:45	7:48	7:51	7:54	7:57	8:00	8:03	8:06	8:09	8:12	8:15	8:18	8:21	8:24	8:27
Roma Street	7:35	7:38	7:41	7:44	7:47	7:50	7:53	7:56	7:59	8:02	8:05	8:08	8:11	8:14	8:17	8:20	8:23	8:26	8:29
Milton	(07:38)			7:47					8:02					8:17					8:32
Auchenflower	(07:40)			7:49					8:04					8:19					8:34
Toowong	(07:42)			7:51					8:06					8:21					8:36
Taringa	(07:45)			7:54					8:09					8:24					8:39
Indooroopilly	(07:47)			7:56					8:11					8:26					8:41
Chelmer	(07:49)			7:58					8:13					8:28					8:43
Graceville	(07:51)			8:00					8:15					8:30					8:45
Sherwood	(07:53)			8:02					8:17					8:32					8:47
Corinda	(07:55)			8:04					8:19					8:34					8:49
Oxley	(07:58)			8:07					8:22					8:37					8:52
Darra	(08:01)			8:10					8:25					8:40					8:55
Richlands	(08:05)			8:14					8:29					8:44					8:59
Springfield	(08:11)			8:20					8:35					8:50					9:05
Springfield Central	(08:14)			8:23					8:38					8:53					9:08

Kippa-Ring	7:33	7:36	7:39	7:42	7:45	7:48	7:51	7:54	7:57	8:00	8:10	8:20	8:30	8:45	9:00	9:15	9:30	9:45	10:00
Rothwell	7:37	7:40	7:43	7:46	7:49	7:52	7:55	7:58	8:01	8:04	8:14	8:24	8:34	8:49	9:04	9:19	9:34	9:49	10:04
Mango Hill East	7:39	7:42	7:45	7:48	7:51	7:54	7:57	8:00	8:03	8:06	8:16	8:26	8:36	8:51	9:06	9:21	9:36	9:51	10:06
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Kallangur	7:46	7:49	7:52	7:55	7:58	8:01	8:04	8:07	8:10	8:13	8:23	8:33	8:43	8:58	9:13	9:28	9:43	9:58	10:13
Petrie	7:49	7:52	7:55	7:58	8:01	8:04	8:07	8:10	8:13	8:16	8:26	8:36	8:46	9:01	9:16	9:31	9:46	10:01	10:16
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Bald Hills	7:59	8:02	8:05	8:08	8:11	8:14	8:17	8:20	8:23	8:26	8:36	8:46	8:56	9:11	9:26	9:41	9:56	10:11	10:26
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Milton					8:47					9:02	9:12	9:22	9:32	9:47	10:02	10:17	10:32	10:47	11:02
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Toowong					8:51					9:06	9:16	9:26	9:36	9:51	10:06	10:21	10:36	10:51	11:06
Taringa					8:54					9:09	9:19	9:29	9:39	9:54	10:09	10:24	10:39	10:54	11:09
Indooroopilly					8:56					9:11	9:21	9:31	9:41	9:56	10:11	10:26	10:41	10:56	11:11
Chelmer					8:58					9:13	9:23	9:33	9:43	9:58	10:13	10:28	10:43	10:58	11:13
Graceville					9:00					9:15	9:25	9:35	9:45	10:00	10:15	10:30	10:45	11:00	11:15
Sherwood					9:02					9:17	9:27	9:37	9:47	10:02	10:17	10:32	10:47	11:02	11:17
Corinda					9:04					9:19	9:29	9:39	9:49	10:04	10:19	10:34	10:49	11:04	11:19
Oxley					9:07					9:22	9:32	9:42	9:52	10:07	10:22	10:37	10:52	11:07	11:22
Darra					9:10					9:25	9:35	9:45	9:55	10:10	10:25	10:40	10:55	11:10	11:25
Richlands					9:14					9:29	9:39	9:49	9:59	10:14	10:29	10:44	10:59	11:14	11:29
Springfield					9:20					9:35	9:45	9:55	10:05	10:20	10:35	10:50	11:05	11:20	11:35
Springfield Central					9:23					9:38	9:48	9:58	10:08	10:23	10:38	10:53	11:08	11:23	11:38

Suburbans sector

Beaudesert								4:30		4:45		5:00		5:15	5:25		5:35	5:45	5:50	5:52
Gleneagle								4:33		4:48		5:03		5:18	5:28		5:38	5:48	5:53	5:55
Gleneagle North								4:36		4:51		5:06		5:21	5:31		5:41	5:51	5:56	5:58
Undullah								4:45		5:00		5:15		5:30	5:40		5:50	6:00	6:05	6:07
Flagstone Central								4:48		5:03		5:18		5:33	5:43		5:53	6:03	6:08	6:10
New Beith								4:53		5:08		5:23		5:38	5:48		5:58	6:08	6:13	6:15
Greenbank								4:57		5:12		5:27		5:42	5:52		6:02	6:12	6:17	6:19
Boronia Heights								4:59		5:14		5:29		5:44	5:54		6:04	6:14	6:19	6:21
Hillcrest								5:03		5:18		5:33		5:48	5:58		6:08	6:18	6:23	6:25
Algester								5:07		5:22		5:37		5:52	6:02		6:12	6:22	6:27	6:29
Acacia Ridge								5:11		5:26		5:41		5:56	6:06		6:16	6:26	6:31	6:33
Salisbury	4:22	4:30	4:37	4:45	4:52	5:00	5:07	5:15	5:22	5:30	5:37	5:45	5:52	6:00	6:10	6:15	6:20	6:30	6:35	6:37
Rocklea	4:24	4:31	4:39	4:47	4:54	5:02	5:09	5:17	5:24	5:32	5:39	5:47	5:54	6:02	6:12	6:19	6:22	6:32	6:37	6:39
Moorooka	4:26	4:33	4:41	4:49	4:56	5:04	5:11	5:19	5:26	5:34	5:41	5:49	5:56	6:04	6:14	6:21	6:24	6:34	6:39	6:41
Yeerongpilly	4:28	4:35	4:43	4:51	4:58	5:06	5:13	5:21	5:28	5:36	5:43	5:51	5:58	6:06	6:16	6:23	6:26	6:36	6:41	6:43
Yeronga	4:30	4:37	4:45	4:53	5:00	5:08	5:15	5:23	5:30	5:38	5:45	5:53	6:00	6:08	6:18	6:25	6:28	6:38	6:43	6:45
Fairfield	4:32	4:39	4:47	4:55	5:02	5:10	5:17	5:25	5:32	5:40	5:47	5:55	6:02	6:10	6:20	6:27	6:30	6:40	6:45	6:47
Dutton Park	4:34	4:41	4:49	4:57	5:04	5:12	5:19	5:27	5:34	5:42	5:49	5:57	6:04	6:12	6:22	6:29	6:32	6:42	6:47	6:49
Park Road	4:36	4:43	4:51	4:59	5:06	5:14	5:21	5:29	5:36	5:44	5:51	5:59	6:06	6:14	6:24	6:31	6:34	6:44	6:49	6:51
South Bank	4:39	4:46	4:54	5:02	5:09	5:17	5:24	5:32	5:39	5:47	5:54	6:02	6:09	6:17	6:27	6:34	6:37	6:47	6:52	6:54
South Brisbane	4:41	4:48	4:56	5:04	5:11	5:19	5:26	5:34	5:41	5:49	5:56	6:04	6:11	6:19	6:29	6:36	6:39	6:49	6:54	6:56
Roma Street	4:46	4:53	5:01	5:09	5:16	5:24	5:31	5:39	5:46	5:54	6:01	6:09	6:16	6:24	6:34	6:41	6:44	6:54	6:59	7:01
Central	4:49	4:56	5:04	5:12	5:19	5:27	5:34	5:42	5:49	5:57	6:04	6:12	6:19	6:27	6:37	6:44	6:47	6:57	7:02	7:04
Fortitude Valley	4:53	5:00	5:08	5:16	5:23	5:31	5:38	5:46	5:53	6:01	6:08	6:16	6:23	6:31	6:41	6:48	6:51	7:01	7:06	7:08
Bowen Hills	4:55	5:02	5:10	5:18	5:25	5:33	5:40	5:48	5:55	6:03	6:10	6:18	6:25	6:33	6:43	6:50	6:53	7:03	7:08	7:10
Albion		5:06		5:22		5:37		5:52		6:07		6:22		6:37		6:54		7:07	(07:12)	
Wooloowin		5:08		5:24		5:39		5:54		6:09		6:24		6:39		6:56		7:09	(07:14)	
Eagle Junction		5:10		5:26		5:41		5:56		6:11		6:26		6:41		6:58		7:11	(07:16)	
Toombul		5:12		5:28		5:43		5:58		6:13		6:28		6:43		7:00		7:13	(07:18)	
Nundah		5:14		5:30		5:45		6:00		6:15		6:30		6:45		7:02		7:15	(07:20)	
Northgate		5:16		5:32		5:47		6:02		6:17		6:32		6:47		7:04		7:17	(07:22)	
Bindha		5:19		5:35		5:50		6:05		6:20		6:35		6:50		7:07		7:20	(07:25)	
Banyo		5:21		5:37		5:52		6:07		6:22		6:37		6:52		7:09		7:22	(07:27)	
Nudgee		5:23		5:39		5:54		6:09		6:24		6:39		6:54		7:11		7:24	(07:29)	
Boondall		5:26		5:42		5:57		6:12		6:27		6:42		6:57		7:14		7:27	(07:32)	
North Boondall		5:28		5:44		5:59		6:14		6:29		6:44		6:59		7:16		7:29	(07:34)	
Deagon		5:30		5:46		6:01		6:16		6:31		6:46		7:01		7:18		7:31	(07:36)	
Sandgate		5:32		5:48		6:03		6:18		6:33		6:48		7:03		7:20		7:33	(07:38)	
Shorncliffe		5:34		5:50		6:05		6:20		6:35		6:50		7:05		7:22		7:35	(07:40)	

Windsor	4:59	5:14	5:29	5:44	5:59	6:14	6:29	6:47	6:57	7:14
Wilston	5:01	5:16	5:31	5:46	6:01	6:16	6:31	6:49	6:59	7:16
Newmarket	5:03	5:18	5:33	5:48	6:03	6:18	6:33	6:51	7:01	7:18
Alderley	5:05	5:20	5:35	5:50	6:05	6:20	6:35	6:53	7:03	7:20
Enoggera	5:07	5:22	5:37	5:52	6:07	6:22	6:37	6:55	7:05	7:22
Gaythorne	5:09	5:24	5:39	5:54	6:09	6:24	6:39	6:57	7:07	7:24
Mitchelton	5:11	5:26	5:41	5:56	6:11	6:26	6:41	6:59	7:09	7:26
Oxford Park	5:13	5:28	5:43	5:58	6:13	6:28	6:43	7:01	7:11	7:28
Grovely	5:15	5:30	5:45	6:00	6:15	6:30	6:45	7:03	7:13	7:30
Keperra	5:17	5:32	5:47	6:02	6:17	6:32	6:47	7:05	7:15	7:32
Ferny Grove	5:21	5:36	5:51	6:06	6:21	6:36	6:51	7:09	7:19	7:36

Beaudesert	5:55	5:57	6:00		6:05		6:10		6:15		6:20		6:25		6:30		6:35		6:40	
Gleneagle	5:58	6:00	6:03		6:08		6:13		6:18		6:23		6:28		6:33		6:38		6:43	
Gleneagle North	6:01	6:03	6:06		6:11		6:16		6:21		6:26		6:31		6:36		6:41		6:46	
Undullah	6:10	6:12	6:15		6:20		6:25		6:30		6:35		6:40		6:45		6:50		6:55	
Flagstone Central	6:13	6:15	6:18	6:20	6:23	6:25	6:28	6:30	6:33	6:35	6:38	6:40	6:43	6:45	6:48	6:50	6:53	6:55	6:58	7:00
New Beith	6:18	6:20	6:23	6:25	6:28	6:30	6:33	6:35	6:38	6:40	6:43	6:45	6:48	6:50	6:53	6:55	6:58	7:00	7:03	7:05
Greenbank	6:22	6:24	6:27	6:29	6:32	6:34	6:37	6:39	6:42	6:44	6:47	6:49	6:52	6:54	6:57	6:59	7:02	7:04	7:07	7:09
Boronia Heights	6:24	6:26	6:29	6:31	6:34	6:36	6:39	6:41	6:44	6:46	6:49	6:51	6:54	6:56	6:59	7:01	7:04	7:06	7:09	7:11
Hillcrest	6:28	6:30	6:33	6:35	6:38	6:40	6:43	6:45	6:48	6:50	6:53	6:55	6:58	7:00	7:03	7:05	7:08	7:10	7:13	7:15
Algester	6:32	6:34	6:37	6:39	6:42	6:44	6:47	6:49	6:52	6:54	6:57	6:59	7:02	7:04	7:07	7:09	7:12	7:14	7:17	7:19
Acacia Ridge	6:36	6:38	6:41	6:43	6:46	6:48	6:51	6:53	6:56	6:58	7:01	7:03	7:06	7:08	7:11	7:13	7:16	7:18	7:21	7:23
Salisbury	6:40	6:42	6:45	6:47	6:50	6:52	6:55	6:57	7:00	7:02	7:05	7:07	7:10	7:12	7:15	7:17	7:20	7:22	7:25	7:27
Rocklea	6:42	6:44	6:47	6:49	6:52	6:54	6:57	6:59	7:02	7:04	7:07	7:09	7:12	7:14	7:17	7:19	7:22	7:24	7:27	7:29
Moorooka	6:44	6:46	6:49	6:51	6:54	6:56	6:59	7:01	7:04	7:06	7:09	7:11	7:14	7:16	7:19	7:21	7:24	7:26	7:29	7:31
Yeerongpilly	6:46	6:48	6:51	6:53	6:56	6:58	7:01	7:03	7:06	7:08	7:11	7:13	7:16	7:18	7:21	7:23	7:26	7:28	7:31	7:33
Yeronga	6:48	6:50	6:53	6:55	6:58	7:00	7:03	7:05	7:08	7:10	7:13	7:15	7:18	7:20	7:23	7:25	7:28	7:30	7:33	7:35
Fairfield	6:50	6:52	6:55	6:57	7:00	7:02	7:05	7:07	7:10	7:12	7:15	7:17	7:20	7:22	7:25	7:27	7:30	7:32	7:35	7:37
Dutton Park	6:52	6:54	6:57	6:59	7:02	7:04	7:07	7:09	7:12	7:14	7:17	7:19	7:22	7:24	7:27	7:29	7:32	7:34	7:37	7:39
Park Road	6:54	6:56	6:59	7:01	7:04	7:06	7:09	7:11	7:14	7:16	7:19	7:21	7:24	7:26	7:29	7:31	7:34	7:36	7:39	7:41
South Bank	6:57	6:59	7:02	7:04	7:07	7:09	7:12	7:14	7:17	7:19	7:22	7:24	7:27	7:29	7:32	7:34	7:37	7:39	7:42	7:44
South Brisbane	6:59	7:01	7:04	7:06	7:09	7:11	7:14	7:16	7:19	7:21	7:24	7:26	7:29	7:31	7:34	7:36	7:39	7:41	7:44	7:46
Roma Street	7:04	7:06	7:09	7:11	7:14	7:16	7:19	7:21	7:24	7:26	7:29	7:31	7:34	7:36	7:39	7:41	7:44	7:46	7:49	7:51
Central	7:07	7:09	7:12	7:14	7:17	7:19	7:22	7:24	7:27	7:29	7:32	7:34	7:37	7:39	7:42	7:44	7:47	7:49	7:52	7:54
Fortitude Valley	7:11	7:13	7:16	7:18	7:21	7:23	7:26	7:28	7:31	7:33	7:36	7:38	7:41	7:43	7:46	7:48	7:51	7:53	7:56	7:58
Bowen Hills	7:13	7:15	7:18	7:20	7:23	7:25	7:28	7:30	7:33	7:35	7:38	7:40	7:43	7:45	7:48	7:50	7:53	7:55	7:58	8:00

Albion	(07:17)	7:22	(07:27)	(07:32)	7:37	(07:42)	(07:47)	7:52	
Wooloowin	(07:19)	7:24	(07:29)	(07:34)	7:39	(07:44)	(07:49)	7:54	
Eagle Junction	(07:21)	7:26	(07:31)	(07:36)	7:41	(07:46)	(07:51)	7:56	
Toombul	(07:23)	7:28	(07:33)	(07:38)	7:43	(07:48)	(07:53)	7:58	
Nundah	(07:25)	7:30	(07:35)	(07:40)	7:45	(07:50)	(07:55)	8:00	
Northgate	(07:27)	7:32	(07:37)	(07:42)	7:47	(07:52)	(07:57)	8:02	
Bindha	(07:30)	7:35	(07:40)	(07:45)	7:50	(07:55)	(08:00)	8:05	
Banyo	(07:32)	7:37	(07:42)	(07:47)	7:52	(07:57)	(08:02)	8:07	
Nudgee	(07:34)	7:39	(07:44)	(07:49)	7:54	(07:59)	(08:04)	8:09	
Boondall	(07:37)	7:42	(07:47)	(07:52)	7:57	(08:02)	(08:07)	8:12	
North Boondall	(07:39)	7:44	(07:49)	(07:54)	7:59	(08:04)	(08:09)	8:14	
Deagon	(07:41)	7:46	(07:51)	(07:56)	8:01	(08:06)	(08:11)	8:16	
Sandgate	(07:43)	7:48	(07:53)	(07:58)	8:03	(08:08)	(08:13)	8:18	
Shorncliffe	(07:45)	7:50	(07:55)	(08:00)	8:05	(08:10)	(08:15)	8:20	

Windsor	(07:19)	(07:24)	7:29	(07:34)	(07:39)	7:44	(07:49)	(07:54)	7:59
Wilston	(07:21)	(07:26)	7:31	(07:36)	(07:41)	7:46	(07:51)	(07:56)	8:01
Newmarket	(07:23)	(07:28)	7:33	(07:38)	(07:43)	7:48	(07:53)	(07:58)	8:03
Alderley	(07:25)	(07:30)	7:35	(07:40)	(07:45)	7:50	(07:55)	(08:00)	8:05
Enoggera	(07:27)	(07:32)	7:37	(07:42)	(07:47)	7:52	(07:57)	(08:02)	8:07
Gaythorne	(07:29)	(07:34)	7:39	(07:44)	(07:49)	7:54	(07:59)	(08:04)	8:09
Mitchelton	(07:31)	(07:36)	7:41	(07:46)	(07:51)	7:56	(08:01)	(08:06)	8:11
Oxford Park	(07:33)	(07:38)	7:43	(07:48)	(07:53)	7:58	(08:03)	(08:08)	8:13
Grovely	(07:35)	(07:40)	7:45	(07:50)	(07:55)	8:00	(08:05)	(08:10)	8:15
Keperra	(07:37)	(07:42)	7:47	(07:52)	(07:57)	8:02	(08:07)	(08:12)	8:17
Ferny Grove	(07:41)	(07:46)	7:51	(07:56)	(08:01)	8:06	(08:11)	(08:16)	8:21

Beaudesert	6:45		6:50		6:55		7:00		7:05		7:10		7:15		7:20		7:25		7:30	
Gleneagle	6:48		6:53		6:58		7:03		7:08		7:13		7:18		7:23		7:28		7:33	
Gleneagle North	6:51		6:56		7:01		7:06		7:11		7:16		7:21		7:26		7:31		7:36	
Undullah	7:00		7:05		7:10		7:15		7:20		7:25		7:30		7:35		7:40		7:45	
Flagstone Central	7:03	7:05	7:08	7:10	7:13	7:15	7:18	7:20	7:23	7:25	7:28	7:30	7:33	7:35	7:38	7:40	7:43	7:45	7:48	7:50
New Beith	7:08	7:10	7:13	7:15	7:18	7:20	7:23	7:25	7:28	7:30	7:33	7:35	7:38	7:40	7:43	7:45	7:48	7:50	7:53	7:55
Greenbank	7:12	7:14	7:17	7:19	7:22	7:24	7:27	7:29	7:32	7:34	7:37	7:39	7:42	7:44	7:47	7:49	7:52	7:54	7:57	7:59
Boronia Heights	7:14	7:16	7:19	7:21	7:24	7:26	7:29	7:31	7:34	7:36	7:39	7:41	7:44	7:46	7:49	7:51	7:54	7:56	7:59	8:01
Hillcrest	7:18	7:20	7:23	7:25	7:28	7:30	7:33	7:35	7:38	7:40	7:43	7:45	7:48	7:50	7:53	7:55	7:58	8:00	8:03	8:05
Algester	7:22	7:24	7:27	7:29	7:32	7:34	7:37	7:39	7:42	7:44	7:47	7:49	7:52	7:54	7:57	7:59	8:02	8:04	8:07	8:09
Acacia Ridge	7:26	7:28	7:31	7:33	7:36	7:38	7:41	7:43	7:46	7:48	7:51	7:53	7:56	7:58	8:01	8:03	8:06	8:08	8:11	8:13
Salisbury	7:30	7:32	7:35	7:37	7:40	7:42	7:45	7:47	7:50	7:52	7:55	7:57	8:00	8:02	8:05	8:07	8:10	8:12	8:15	8:17
Rocklea	7:32	7:34	7:37	7:39	7:42	7:44	7:47	7:49	7:52	7:54	7:57	7:59	8:02	8:04	8:07	8:09	8:12	8:14	8:17	8:19
Moorooka	7:34	7:36	7:39	7:41	7:44	7:46	7:49	7:51	7:54	7:56	7:59	8:01	8:04	8:06	8:09	8:11	8:14	8:16	8:19	8:21
Yeerongpilly	7:36	7:38	7:41	7:43	7:46	7:48	7:51	7:53	7:56	7:58	8:01	8:03	8:06	8:08	8:11	8:13	8:16	8:18	8:21	8:23
Yeronga	7:38	7:40	7:43	7:45	7:48	7:50	7:53	7:55	7:58	8:00	8:03	8:05	8:08	8:10	8:13	8:15	8:18	8:20	8:23	8:25
Fairfield	7:40	7:42	7:45	7:47	7:50	7:52	7:55	7:57	8:00	8:02	8:05	8:07	8:10	8:12	8:15	8:17	8:20	8:22	8:25	8:27
Dutton Park	7:42	7:44	7:47	7:49	7:52	7:54	7:57	7:59	8:02	8:04	8:07	8:09	8:12	8:14	8:17	8:19	8:22	8:24	8:27	8:29
Park Road	7:44	7:46	7:49	7:51	7:54	7:56	7:59	8:01	8:04	8:06	8:09	8:11	8:14	8:16	8:19	8:21	8:24	8:26	8:29	8:31
South Bank	7:47	7:49	7:52	7:54	7:57	7:59	8:02	8:04	8:07	8:09	8:12	8:14	8:17	8:19	8:22	8:24	8:27	8:29	8:32	8:34
South Brisbane	7:49	7:51	7:54	7:56	7:59	8:01	8:04	8:06	8:09	8:11	8:14	8:16	8:19	8:21	8:24	8:26	8:29	8:31	8:34	8:36
Roma Street	7:54	7:56	7:59	8:01	8:04	8:06	8:09	8:11	8:14	8:16	8:19	8:21	8:24	8:26	8:29	8:31	8:34	8:36	8:39	8:41
Central	7:57	7:59	8:02	8:04	8:07	8:09	8:12	8:14	8:17	8:19	8:22	8:24	8:27	8:29	8:32	8:34	8:37	8:39	8:42	8:44
Fortitude Valley	8:01	8:03	8:06	8:08	8:11	8:13	8:16	8:18	8:21	8:23	8:26	8:28	8:31	8:33	8:36	8:38	8:41	8:43	8:46	8:48
Bowen Hills	8:03	8:05	8:08	8:10	8:13	8:15	8:18	8:20	8:23	8:25	8:28	8:30	8:33	8:35	8:38	8:40	8:43	8:45	8:48	8:50

Albion	8:07		(08:17)		8:22								8:37						8:52
Wooloowin	8:09		(08:19)		8:24								8:39						8:54
Eagle Junction	8:11		(08:21)		8:26								8:41						8:56
Toombul	8:13		(08:23)		8:28								8:43						8:58
Nundah	8:15		(08:25)		8:30								8:45						9:00
Northgate	8:17		(08:27)		8:32								8:47						9:02
Bindha	8:20		(08:30)		8:35								8:50						9:05
Banyo	8:22		(08:32)		8:37								8:52						9:07
Nudgee	8:24		(08:34)		8:39								8:54						9:09
Boondall	8:27		(08:37)		8:42								8:57						9:12
North Boondall	8:29		(08:39)		8:44								8:59						9:14
Deagon	8:31		(08:41)		8:46								9:01						9:16
Sandgate	8:33		(08:43)		8:48								9:03						9:18
Shorncliffe	8:35		(08:45)		8:50								9:05						9:20

Windsor	(08:09)	8:14		8:29		8:44
Wilston	(08:11)	8:16		8:31		8:46
Newmarket	(08:13)	8:18		8:33		8:48
Alderley	(08:15)	8:20		8:35		8:50
Enoggera	(08:17)	8:22		8:37		8:52
Gaythorne	(08:19)	8:24		8:39		8:54
Mitchelton	(08:21)	8:26		8:41		8:56
Oxford Park	(08:23)	8:28		8:43		8:58
Grovely	(08:25)	8:30		8:45		9:00
Keperra	(08:27)	8:32		8:47		9:02
Ferny Grove	(08:31)	8:36		8:51		9:06

Beaudesert	7:35		7:40		7:45		7:50	7:55		8:05	8:15		8:30		8:45		9:00		9:15	
Gleneagle	7:38		7:43		7:48		7:53	7:58		8:08	8:18		8:33		8:48		9:03		9:18	
Gleneagle North	7:41		7:46		7:51		7:56	8:01		8:11	8:21		8:36		8:51		9:06		9:21	
Undullah	7:50		7:55		8:00		8:05	8:10		8:20	8:30		8:45		9:00		9:15		9:30	
Flagstone Central	7:53	7:55	7:58	8:00	8:03	8:05	8:08	8:13		8:23	8:33		8:48		9:03		9:18		9:33	
New Beith	7:58	8:00	8:03	8:05	8:08	8:10	8:13	8:18		8:28	8:38		8:53		9:08		9:23		9:38	
Greenbank	8:02	8:04	8:07	8:09	8:12	8:14	8:17	8:22		8:32	8:42		8:57		9:12		9:27		9:42	
Boronia Heights	8:04	8:06	8:09	8:11	8:14	8:16	8:19	8:24		8:34	8:44		8:59		9:14		9:29		9:44	
Hillcrest	8:08	8:10	8:13	8:15	8:18	8:20	8:23	8:28		8:38	8:48		9:03		9:18		9:33		9:48	
Algester	8:12	8:14	8:17	8:19	8:22	8:24	8:27	8:32		8:42	8:52		9:07		9:22		9:37		9:52	
Acacia Ridge	8:16	8:18	8:21	8:23	8:26	8:28	8:31	8:36		8:46	8:56		9:11		9:26		9:41		9:56	
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Park Road	8:34	8:36	8:39	8:41	8:44	8:46	8:49	8:54	8:59	9:04	9:14	9:21	9:29	9:36	9:44	9:51	9:59	10:06	10:14	10:21
South Bank	8:37	8:39	8:42	8:44	8:47	8:49	8:52	8:57	9:02	9:07	9:17	9:24	9:32	9:39	9:47	9:54	10:02	10:09	10:17	10:24
South Brisbane	8:39	8:41	8:44	8:46	8:49	8:51	8:54	8:59	9:04	9:09	9:19	9:26	9:34	9:41	9:49	9:56	10:04	10:11	10:19	10:26
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Bowen Hills	8:53	8:55	8:58	9:00	9:03	9:05	9:08	9:13	9:18	9:23	9:33	9:40	9:48	9:55	10:03	10:10	10:18	10:25	10:33	10:40

Albion	9:07		9:22	9:37	9:52	10:07	10:22	10:37
Wooloowin	9:09		9:24	9:39	9:54	10:09	10:24	10:39
Eagle Junction	9:11		9:26	9:41	9:56	10:11	10:26	10:41
Toombul	9:13		9:28	9:43	9:58	10:13	10:28	10:43
Nundah	9:15		9:30	9:45	10:00	10:15	10:30	10:45
Northgate	9:17		9:32	9:47	10:02	10:17	10:32	10:47
Bindha	9:20		9:35	9:50	10:05	10:20	10:35	10:50
Banyo	9:22		9:37	9:52	10:07	10:22	10:37	10:52
Nudgee	9:24		9:39	9:54	10:09	10:24	10:39	10:54
Boondall	9:27		9:42	9:57	10:12	10:27	10:42	10:57
North Boondall	9:29		9:44	9:59	10:14	10:29	10:44	10:59
Deagon	9:31		9:46	10:01	10:16	10:31	10:46	11:01
Sandgate	9:33		9:48	10:03	10:18	10:33	10:48	11:03
Shorncliffe	9:35		9:50	10:05	10:20	10:35	10:50	11:05

Windsor	8:59		9:12	9:27	9:44	9:59	10:14	10:29	10:44
Wilston	9:01		9:14	9:29	9:46	10:01	10:16	10:31	10:46
Newmarket	9:03		9:16	9:31	9:48	10:03	10:18	10:33	10:48
Alderley	9:05		9:18	9:33	9:50	10:05	10:20	10:35	10:50
Enoggera	9:07		9:20	9:35	9:52	10:07	10:22	10:37	10:52
Gaythorne	9:09		9:22	9:37	9:54	10:09	10:24	10:39	10:54
Mitchelton	9:11		9:24	9:39	9:56	10:11	10:26	10:41	10:56
Oxford Park	9:13		9:26	9:41	9:58	10:13	10:28	10:43	10:58
Grovely	9:15		9:28	9:43	10:00	10:15	10:30	10:45	11:00
Keperra	9:17		9:30	9:45	10:02	10:17	10:32	10:47	11:02
Ferny Grove	9:21		9:34	9:49	10:06	10:21	10:36	10:51	11:06

Beaudesert	9:30		9:45		10:00		10:15		10:30		10:45	
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Gleneagle North	9:36		9:51		10:06		10:21		10:36		10:51	
Undullah	9:45		10:00		10:15		10:30		10:45		11:00	
Flagstone Central	9:48		10:03		10:18		10:33		10:48		11:03	
New Beith	9:53		10:08		10:23		10:38		10:53		11:08	
Greenbank	9:57		10:12		10:27		10:42		10:57		11:12	
Boronia Heights	9:59		10:14		10:29		10:44		10:59		11:14	
Hillcrest	10:03		10:18		10:33		10:48		11:03		11:18	
Algester	10:07		10:22		10:37		10:52		11:07		11:22	
Acacia Ridge	10:11		10:26		10:41		10:56		11:11		11:26	
Salisbury	10:15	10:22	10:30	10:37	10:45	10:52	11:00	11:07	11:15	11:22	11:30	11:37
Rocklea	10:17	10:24	10:32	10:39	10:47	10:54	11:02	11:09	11:17	11:24	11:32	11:39
Moorooka	10:19	10:26	10:34	10:41	10:49	10:56	11:04	11:11	11:19	11:26	11:34	11:41
Yeerongpilly	10:21	10:28	10:36	10:43	10:51	10:58	11:06	11:13	11:21	11:28	11:36	11:43
Yeronga	10:23	10:30	10:38	10:45	10:53	11:00	11:08	11:15	11:23	11:30	11:38	11:45
Fairfield	10:25	10:32	10:40	10:47	10:55	11:02	11:10	11:17	11:25	11:32	11:40	11:47
Dutton Park	10:27	10:34	10:42	10:49	10:57	11:04	11:12	11:19	11:27	11:34	11:42	11:49
Park Road	10:29	10:36	10:44	10:51	10:59	11:06	11:14	11:21	11:29	11:36	11:44	11:51
South Bank	10:32	10:39	10:47	10:54	11:02	11:09	11:17	11:24	11:32	11:39	11:47	11:54
South Brisbane	10:34	10:41	10:49	10:56	11:04	11:11	11:19	11:26	11:34	11:41	11:49	11:56
Roma Street	10:39	10:46	10:54	11:01	11:09	11:16	11:24	11:31	11:39	11:46	11:54	12:01
Central	10:42	10:49	10:57	11:04	11:12	11:19	11:27	11:34	11:42	11:49	11:57	12:04
Fortitude Valley	10:46	10:53	11:01	11:08	11:16	11:23	11:31	11:38	11:46	11:53	12:01	12:08
Bowen Hills	10:48	10:55	11:03	11:10	11:18	11:25	11:33	11:40	11:48	11:55	12:03	12:10

Albion	10:52	11:07	11:22	11:37	11:52	12:07
Wooloowin	10:54	11:09	11:24	11:39	11:54	12:09
Eagle Junction	10:56	11:11	11:26	11:41	11:56	12:11
Toombul	10:58	11:13	11:28	11:43	11:58	12:13
Nundah	11:00	11:15	11:30	11:45	12:00	12:15
Northgate	11:02	11:17	11:32	11:47	12:02	12:17
Bindha	11:05	11:20	11:35	11:50	12:05	12:20
Banyo	11:07	11:22	11:37	11:52	12:07	12:22
Nudgee	11:09	11:24	11:39	11:54	12:09	12:24
Boondall	11:12	11:27	11:42	11:57	12:12	12:27
North Boondall	11:14	11:29	11:44	11:59	12:14	12:29
Deagon	11:16	11:31	11:46	12:01	12:16	12:31
Sandgate	11:18	11:33	11:48	12:03	12:18	12:33
Shorncliffe	11:20	11:35	11:50	12:05	12:20	12:35

Windsor	10:59	11:14	11:29	11:44	11:59	12:14
Wilston	11:01	11:16	11:31	11:46	12:01	12:16
Newmarket	11:03	11:18	11:33	11:48	12:03	12:18
Alderley	11:05	11:20	11:35	11:50	12:05	12:20
Enoggera	11:07	11:22	11:37	11:52	12:07	12:22
Gaythorne	11:09	11:24	11:39	11:54	12:09	12:24
Mitchelton	11:11	11:26	11:41	11:56	12:11	12:26
Oxford Park	11:13	11:28	11:43	11:58	12:13	12:28
Grovely	11:15	11:30	11:45	12:00	12:15	12:30
Keperra	11:17	11:32	11:47	12:02	12:17	12:32
Ferny Grove	11:21	11:36	11:51	12:06	12:21	12:36

Ferny Grove	4:30	4:45	5:00	5:15	5:30	5:45	6:00	6:10	6:20	6:30
Keperra	4:34	4:49	5:04	5:19	5:34	5:49	6:04	6:14	6:24	6:34
Grovely	4:36	4:51	5:06	5:21	5:36	5:51	6:06	6:16	6:26	6:36
Oxford Park	4:38	4:53	5:08	5:23	5:38	5:53	6:08	6:18	6:28	6:38
Mitchelton	4:40	4:55	5:10	5:25	5:40	5:55	6:10	6:20	6:30	6:40
Gaythorne	4:42	4:57	5:12	5:27	5:42	5:57	6:12	6:22	6:32	6:42
Enoggera	4:44	4:59	5:14	5:29	5:44	5:59	6:14	6:24	6:34	6:44
Alderley	4:46	5:01	5:16	5:31	5:46	6:01	6:16	6:26	6:36	6:46
Newmarket	4:48	5:03	5:18	5:33	5:48	6:03	6:18	6:28	6:38	6:48
Wilston	4:50	5:05	5:20	5:35	5:50	6:05	6:20	6:30	6:40	6:50
Windsor	4:52	5:07	5:22	5:37	5:52	6:07	6:22	6:32	6:42	6:52

Shorncliffe	4:32	4:47	5:02	5:17	5:32	5:47	5:59	6:09	6:19	6:26
Sandgate	4:34	4:49	5:04	5:19	5:34	5:49	6:01	6:11	6:21	6:28
Deagon	4:36	4:51	5:06	5:21	5:36	5:51	6:03	6:13	6:23	6:30
North Boondall	4:38	4:53	5:08	5:23	5:38	5:53	6:05	6:15	6:25	6:32
Boondall	4:40	4:55	5:10	5:25	5:40	5:55	6:07	6:17	6:27	6:34
Nudgee	4:43	4:58	5:13	5:28	5:43	5:58	6:10	6:20	6:30	6:37
Banyo	4:45	5:00	5:15	5:30	5:45	6:00	6:12	6:22	6:32	6:39
Bindha	4:47	5:02	5:17	5:32	5:47	6:02	6:14	6:24	6:34	6:41
Northgate	4:50	5:05	5:20	5:35	5:50	6:05	6:17	6:27	6:37	6:44
Nundah	4:52	5:07	5:22	5:37	5:52	6:07	6:19	6:29	6:39	6:46
Toombul	4:54	5:09	5:24	5:39	5:54	6:09	6:21	6:31	6:41	6:48
Eagle Junction	4:56	5:11	5:26	5:41	5:56	6:11	6:23	6:33	6:43	6:50
Wooloowin	4:58	5:13	5:28	5:43	5:58	6:13	6:25	6:35	6:45	6:52
Albion	5:00	5:15	5:30	5:45	6:00	6:15	6:27	6:37	6:47	6:54

Bowen Hills	4:56	5:04	5:11	5:19	5:26	5:34	5:41	5:49	5:56	6:04	6:11	6:19	6:26	6:31	6:36	6:41	6:46	6:51	6:56	6:58
Fortitude Valley	4:58	5:06	5:13	5:21	5:28	5:36	5:43	5:51	5:58	6:06	6:13	6:21	6:28	6:33	6:38	6:43	6:48	6:53	6:58	7:00
Central	5:02	5:10	5:17	5:25	5:32	5:40	5:47	5:55	6:02	6:10	6:17	6:25	6:32	6:37	6:42	6:47	6:52	6:57	7:02	7:04
Roma Street	5:05	5:13	5:20	5:28	5:35	5:43	5:50	5:58	6:05	6:13	6:20	6:28	6:35	6:40	6:45	6:50	6:55	7:00	7:05	7:07
South Brisbane	5:10	5:18	5:25	5:33	5:40	5:48	5:55	6:03	6:10	6:18	6:25	6:33	6:40	6:45	6:50	6:55	7:00	7:05	7:10	7:12
South Bank	5:12	5:20	5:27	5:35	5:42	5:50	5:57	6:05	6:12	6:20	6:27	6:35	6:42	6:47	6:52	6:57	7:02	7:07	7:12	7:14
Park Road	5:15	5:23	5:30	5:38	5:45	5:53	6:00	6:08	6:15	6:23	6:30	6:38	6:45	6:50	6:55	7:00	7:05	7:10	7:15	7:17
Dutton Park	5:17	5:25	5:32	5:40	5:47	5:55	6:02	6:10	6:17	6:25	6:32	6:40	6:47	6:52	6:57	7:02	7:07	7:12	7:17	7:19
Fairfield	5:19	5:27	5:34	5:42	5:49	5:57	6:04	6:12	6:19	6:27	6:34	6:42	6:49	6:54	6:59	7:04	7:09	7:14	7:19	7:21
Yeronga	5:21	5:29	5:36	5:44	5:51	5:59	6:06	6:14	6:21	6:29	6:36	6:44	6:51	6:56	7:01	7:06	7:11	7:16	7:21	7:23
Yeerongpilly	5:23	5:31	5:38	5:46	5:53	6:01	6:08	6:16	6:23	6:31	6:38	6:46	6:53	6:58	7:03	7:08	7:13	7:18	7:23	7:25
Moorooka	5:25	5:33	5:40	5:48	5:55	6:03	6:10	6:18	6:25	6:33	6:40	6:48	6:55	7:00	7:05	7:10	7:15	7:20	7:25	7:27
Rocklea	5:27	5:35	5:42	5:50	5:57	6:05	6:12	6:20	6:27	6:35	6:42	6:50	6:57	7:02	7:07	7:12	7:17	7:22	7:27	7:29
Salisbury	5:29	5:37	5:44	5:52	5:59	6:07	6:14	6:22	6:29	6:37	6:44	6:52	6:59	7:04	7:09	7:14	7:19	7:24	7:29	7:31
Acacia Ridge		5:41	(05:48)	5:56	(06:03)	6:11	(06:18)	6:26	(06:33)	6:41	(06:48)	6:56	(07:03)	(07:08)	7:13	(07:18)	(07:23)	7:28	(07:33)	
Algester		5:45	(05:52)	6:00	(06:07)	6:15	(06:22)	6:30	(06:37)	6:45	(06:52)	7:00	(07:07)	(07:12)	7:17	(07:22)	(07:27)	7:32	(07:37)	
Hillcrest		5:49	(05:56)	6:04	(06:11)	6:19	(06:26)	6:34	(06:41)	6:49	(06:56)	7:04	(07:11)	(07:16)	7:21	(07:26)	(07:31)	7:36	(07:41)	
Boronia Heights		5:53	(06:00)	6:08	(06:15)	6:23	(06:30)	6:38	(06:45)	6:53	(07:00)	7:08	(07:15)	(07:20)	7:25	(07:30)	(07:35)	7:40	(07:45)	
Greenbank		5:55	(06:02)	6:10	(06:17)	6:25	(06:32)	6:40	(06:47)	6:55	(07:02)	7:10	(07:17)	(07:22)	7:27	(07:32)	(07:37)	7:42	(07:47)	
New Beith		5:59	(06:06)	6:14	(06:21)	6:29	(06:36)	6:44	(06:51)	6:59	(07:06)	7:14	(07:21)	(07:26)	7:31	(07:36)	(07:41)	7:46	(07:51)	
Flagstone Central		6:04	(06:11)	6:19	(06:26)	6:34	(06:41)	6:49	(06:56)	7:04	(07:11)	7:19	(07:26)	(07:31)	7:36	(07:41)	(07:46)	7:51	(07:56)	
Undullah		6:07		6:22		6:37		6:52		7:07		7:22			7:39			7:54		
Gleneagle North		6:16		6:31		6:46		7:01		7:16		7:31			7:48			8:03		
Gleneagle		6:19		6:34		6:49		7:04		7:19		7:34			7:51			8:06		
Beaudesert		6:22		6:37		6:52		7:07		7:22		7:37			7:54			8:09		

Ferny Grove	6:35	6:40	6:45	6:50	6:55	7:00	7:05	7:10	7:15	7:20
Keperra	6:39	6:44	6:49	6:54	6:59	7:04	7:09	7:14	7:19	7:24
Grovely	6:41	6:46	6:51	6:56	7:01	7:06	7:11	7:16	7:21	7:26
Oxford Park	6:43	6:48	6:53	6:58	7:03	7:08	7:13	7:18	7:23	7:28
Mitchelton	6:45	6:50	6:55	7:00	7:05	7:10	7:15	7:20	7:25	7:30
Gaythorne	6:47	6:52	6:57	7:02	7:07	7:12	7:17	7:22	7:27	7:32
Enoggera	6:49	6:54	6:59	7:04	7:09	7:14	7:19	7:24	7:29	7:34
Alderley	6:51	6:56	7:01	7:06	7:11	7:16	7:21	7:26	7:31	7:36
Newmarket	6:53	6:58	7:03	7:08	7:13	7:18	7:23	7:28	7:33	7:38
Wilston	6:55	7:00	7:05	7:10	7:15	7:20	7:25	7:30	7:35	7:40
Windsor	6:57	7:02	7:07	7:12	7:17	7:22	7:27	7:32	7:37	7:42

Shorncliffe	6:31	6:36	6:41	6:46	6:51	6:56	7:01	7:06	7:11	7:16
Sandgate	6:33	6:38	6:43	6:48	6:53	6:58	7:03	7:08	7:13	7:18
Deagon	6:35	6:40	6:45	6:50	6:55	7:00	7:05	7:10	7:15	7:20
North Boondall	6:37	6:42	6:47	6:52	6:57	7:02	7:07	7:12	7:17	7:22
Boondall	6:39	6:44	6:49	6:54	6:59	7:04	7:09	7:14	7:19	7:24
Nudgee	6:42	6:47	6:52	6:57	7:02	7:07	7:12	7:17	7:22	7:27
Banyo	6:44	6:49	6:54	6:59	7:04	7:09	7:14	7:19	7:24	7:29
Bindha	6:46	6:51	6:56	7:01	7:06	7:11	7:16	7:21	7:26	7:31
Northgate	6:49	6:54	6:59	7:04	7:09	7:14	7:19	7:24	7:29	7:34
Nundah	6:51	6:56	7:01	7:06	7:11	7:16	7:21	7:26	7:31	7:36
Toombul	6:53	6:58	7:03	7:08	7:13	7:18	7:23	7:28	7:33	7:38
Eagle Junction	6:55	7:00	7:05	7:10	7:15	7:20	7:25	7:30	7:35	7:40
Wooloowin	6:57	7:02	7:07	7:12	7:17	7:22	7:27	7:32	7:37	7:42
Albion	6:59	7:04	7:09	7:14	7:19	7:24	7:29	7:34	7:39	7:44

Bowen Hills	7:01	7:03	7:06	7:08	7:11	7:13	7:16	7:18	7:21	7:23	7:26	7:28	7:31	7:33	7:36	7:38	7:41	7:43	7:46	7:48
Fortitude Valley	7:03	7:05	7:08	7:10	7:13	7:15	7:18	7:20	7:23	7:25	7:28	7:30	7:33	7:35	7:38	7:40	7:43	7:45	7:48	7:50
Central	7:07	7:09	7:12	7:14	7:17	7:19	7:22	7:24	7:27	7:29	7:32	7:34	7:37	7:39	7:42	7:44	7:47	7:49	7:52	7:54
Roma Street	7:10	7:12	7:15	7:17	7:20	7:22	7:25	7:27	7:30	7:32	7:35	7:37	7:40	7:42	7:45	7:47	7:50	7:52	7:55	7:57
South Brisbane	7:15	7:17	7:20	7:22	7:25	7:27	7:30	7:32	7:35	7:37	7:40	7:42	7:45	7:47	7:50	7:52	7:55	7:57	8:00	8:02
South Bank	7:17	7:19	7:22	7:24	7:27	7:29	7:32	7:34	7:37	7:39	7:42	7:44	7:47	7:49	7:52	7:54	7:57	7:59	8:02	8:04
Park Road	7:20	7:22	7:25	7:27	7:30	7:32	7:35	7:37	7:40	7:42	7:45	7:47	7:50	7:52	7:55	7:57	8:00	8:02	8:05	8:07
Dutton Park	7:22	7:24	7:27	7:29	7:32	7:34	7:37	7:39	7:42	7:44	7:47	7:49	7:52	7:54	7:57	7:59	8:02	8:04	8:07	8:09
Fairfield	7:24	7:26	7:29	7:31	7:34	7:36	7:39	7:41	7:44	7:46	7:49	7:51	7:54	7:56	7:59	8:01	8:04	8:06	8:09	8:11
Yeronga	7:26	7:28	7:31	7:33	7:36	7:38	7:41	7:43	7:46	7:48	7:51	7:53	7:56	7:58	8:01	8:03	8:06	8:08	8:11	8:13
Yeerongpilly	7:28	7:30	7:33	7:35	7:38	7:40	7:43	7:45	7:48	7:50	7:53	7:55	7:58	8:00	8:03	8:05	8:08	8:10	8:13	8:15
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Rocklea	7:32	7:34	7:37	7:39	7:42	7:44	7:47	7:49	7:52	7:54	7:57	7:59	8:02	8:04	8:07	8:09	8:12	8:14	8:17	8:19
Salisbury	7:34	7:36	7:39	7:41	7:44	7:46	7:49	7:51	7:54	7:56	7:59	8:01	8:04	8:06	8:09	8:11	8:14	8:16	8:19	8:21
Acacia Ridge			7:43						7:58						8:13					
Algester			7:47						8:02						8:17					
Hillcrest			7:51						8:06						8:21					
Boronia Heights			7:55						8:10						8:25					
Greenbank			7:57						8:12						8:27					
New Beith			8:01						8:16						8:31					
Flagstone Central			8:06						8:21						8:36					
Undullah			8:09						8:24						8:39					
Gleneagle North			8:18						8:33						8:48					
Gleneagle			8:21						8:36						8:51					
Beaudesert			8:24						8:39						8:54					

Ferny Grove	7:25	7:30	7:35	7:40	7:45	7:50	7:55	8:00	8:05	8:10
Keperra	7:29	7:34	7:39	7:44	7:49	7:54	7:59	8:04	8:09	8:14
Grovely	7:31	7:36	7:41	7:46	7:51	7:56	8:01	8:06	8:11	8:16
Oxford Park	7:33	7:38	7:43	7:48	7:53	7:58	8:03	8:08	8:13	8:18
Mitchelton	7:35	7:40	7:45	7:50	7:55	8:00	8:05	8:10	8:15	8:20
Gaythorne	7:37	7:42	7:47	7:52	7:57	8:02	8:07	8:12	8:17	8:22
Enoggera	7:39	7:44	7:49	7:54	7:59	8:04	8:09	8:14	8:19	8:24
Alderley	7:41	7:46	7:51	7:56	8:01	8:06	8:11	8:16	8:21	8:26
Newmarket	7:43	7:48	7:53	7:58	8:03	8:08	8:13	8:18	8:23	8:28
Wilston	7:45	7:50	7:55	8:00	8:05	8:10	8:15	8:20	8:25	8:30
Windsor	7:47	7:52	7:57	8:02	8:07	8:12	8:17	8:22	8:27	8:32

Shorncliffe	7:21	7:26	7:31	7:36	7:41	7:46	7:51	7:56	8:01	8:06
Sandgate	7:23	7:28	7:33	7:38	7:43	7:48	7:53	7:58	8:03	8:08
Deagon	7:25	7:30	7:35	7:40	7:45	7:50	7:55	8:00	8:05	8:10
North Boondall	7:27	7:32	7:37	7:42	7:47	7:52	7:57	8:02	8:07	8:12
Boondall	7:29	7:34	7:39	7:44	7:49	7:54	7:59	8:04	8:09	8:14
Nudgee	7:32	7:37	7:42	7:47	7:52	7:57	8:02	8:07	8:12	8:17
Banyo	7:34	7:39	7:44	7:49	7:54	7:59	8:04	8:09	8:14	8:19
Bindha	7:36	7:41	7:46	7:51	7:56	8:01	8:06	8:11	8:16	8:21
Northgate	7:39	7:44	7:49	7:54	7:59	8:04	8:09	8:14	8:19	8:24
Nundah	7:41	7:46	7:51	7:56	8:01	8:06	8:11	8:16	8:21	8:26
Toombul	7:43	7:48	7:53	7:58	8:03	8:08	8:13	8:18	8:23	8:28
Eagle Junction	7:45	7:50	7:55	8:00	8:05	8:10	8:15	8:20	8:25	8:30
Wooloowin	7:47	7:52	7:57	8:02	8:07	8:12	8:17	8:22	8:27	8:32
Albion	7:49	7:54	7:59	8:04	8:09	8:14	8:19	8:24	8:29	8:34

Bowen Hills	7:51	7:53	7:56	7:58	8:01	8:03	8:06	8:08	8:11	8:13	8:16	8:18	8:21	8:23	8:26	8:28	8:31	8:33	8:36	8:38
Fortitude Valley	7:53	7:55	7:58	8:00	8:03	8:05	8:08	8:10	8:13	8:15	8:18	8:20	8:23	8:25	8:28	8:30	8:33	8:35	8:38	8:40
Central	7:57	7:59	8:02	8:04	8:07	8:09	8:12	8:14	8:17	8:19	8:22	8:24	8:27	8:29	8:32	8:34	8:37	8:39	8:42	8:44
Roma Street	8:00	8:02	8:05	8:07	8:10	8:12	8:15	8:17	8:20	8:22	8:25	8:27	8:30	8:32	8:35	8:37	8:40	8:42	8:45	8:47
South Brisbane	8:05	8:07	8:10	8:12	8:15	8:17	8:20	8:22	8:25	8:27	8:30	8:32	8:35	8:37	8:40	8:42	8:45	8:47	8:50	8:52
South Bank	8:07	8:09	8:12	8:14	8:17	8:19	8:22	8:24	8:27	8:29	8:32	8:34	8:37	8:39	8:42	8:44	8:47	8:49	8:52	8:54
Park Road	8:10	8:12	8:15	8:17	8:20	8:22	8:25	8:27	8:30	8:32	8:35	8:37	8:40	8:42	8:45	8:47	8:50	8:52	8:55	8:57
Dutton Park	8:12	8:14	8:17	8:19	8:22	8:24	8:27	8:29	8:32	8:34	8:37	8:39	8:42	8:44	8:47	8:49	8:52	8:54	8:57	8:59
Fairfield	8:14	8:16	8:19	8:21	8:24	8:26	8:29	8:31	8:34	8:36	8:39	8:41	8:44	8:46	8:49	8:51	8:54	8:56	8:59	9:01
Yeronga	8:16	8:18	8:21	8:23	8:26	8:28	8:31	8:33	8:36	8:38	8:41	8:43	8:46	8:48	8:51	8:53	8:56	8:58	9:01	9:03
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Moorooka	8:20	8:22	8:25	8:27	8:30	8:32	8:35	8:37	8:40	8:42	8:45	8:47	8:50	8:52	8:55	8:57	9:00	9:02	9:05	9:07
Rocklea	8:22	8:24	8:27	8:29	8:32	8:34	8:37	8:39	8:42	8:44	8:47	8:49	8:52	8:54	8:57	8:59	9:02	9:04	9:07	9:09
Salisbury	8:24	8:26	8:29	8:31	8:34	8:36	8:39	8:41	8:44	8:46	8:49	8:51	8:54	8:56	8:59	9:01	9:04	9:06	9:09	9:11
Acacia Ridge	8:28						8:43						8:58						9:13	
Algester	8:32						8:47						9:02						9:17	
Hillcrest	8:36						8:51						9:06						9:21	
Boronia Heights	8:40						8:55						9:10						9:25	
Greenbank	8:42						8:57						9:12						9:27	
New Beith	8:46						9:01						9:16						9:31	
Flagstone Central	8:51						9:06						9:21						9:36	
Undullah	8:54						9:09						9:24						9:39	
Gleneagle North	9:03						9:18						9:33						9:48	
Gleneagle	9:06						9:21						9:36						9:51	
Beaudesert	9:09						9:24						9:39						9:54	

Ferny Grove	8:15	8:20	8:25	8:30	8:40	8:50	9:00	9:15	9:30	9:45
Keperra	8:19	8:24	8:29	8:34	8:44	8:54	9:04	9:19	9:34	9:49
Grovely	8:21	8:26	8:31	8:36	8:46	8:56	9:06	9:21	9:36	9:51
Oxford Park	8:23	8:28	8:33	8:38	8:48	8:58	9:08	9:23	9:38	9:53
Mitchelton	8:25	8:30	8:35	8:40	8:50	9:00	9:10	9:25	9:40	9:55
Gaythorne	8:27	8:32	8:37	8:42	8:52	9:02	9:12	9:27	9:42	9:57
Enoggera	8:29	8:34	8:39	8:44	8:54	9:04	9:14	9:29	9:44	9:59
Alderley	8:31	8:36	8:41	8:46	8:56	9:06	9:16	9:31	9:46	10:01
Newmarket	8:33	8:38	8:43	8:48	8:58	9:08	9:18	9:33	9:48	10:03
Wilston	8:35	8:40	8:45	8:50	9:00	9:10	9:20	9:35	9:50	10:05
Windsor	8:37	8:42	8:47	8:52	9:02	9:12	9:22	9:37	9:52	10:07

Shorncliffe	8:11	8:16	8:21	8:32	8:42	8:52	9:02	9:17	9:32	9:47
Sandgate	8:13	8:18	8:23	8:34	8:44	8:54	9:04	9:19	9:34	9:49
Deagon	8:15	8:20	8:25	8:36	8:46	8:56	9:06	9:21	9:36	9:51
North Boondall	8:17	8:22	8:27	8:38	8:48	8:58	9:08	9:23	9:38	9:53
Boondall	8:19	8:24	8:29	8:40	8:50	9:00	9:10	9:25	9:40	9:55
Nudgee	8:22	8:27	8:32	8:43	8:53	9:03	9:13	9:28	9:43	9:58
Banyo	8:24	8:29	8:34	8:45	8:55	9:05	9:15	9:30	9:45	10:00
Bindha	8:26	8:31	8:36	8:47	8:57	9:07	9:17	9:32	9:47	10:02
Northgate	8:29	8:34	8:39	8:50	9:00	9:10	9:20	9:35	9:50	10:05
Nundah	8:31	8:36	8:41	8:52	9:02	9:12	9:22	9:37	9:52	10:07
Toombul	8:33	8:38	8:43	8:54	9:04	9:14	9:24	9:39	9:54	10:09
Eagle Junction	8:35	8:40	8:45	8:56	9:06	9:16	9:26	9:41	9:56	10:11
Wooloowin	8:37	8:42	8:47	8:58	9:08	9:18	9:28	9:43	9:58	10:13
Albion	8:39	8:44	8:49	9:00	9:10	9:20	9:30	9:45	10:00	10:15

Bowen Hills	8:41	8:43	8:46	8:48	8:51	8:53	8:56	9:04	9:06	9:14	9:16	9:24	9:26	9:34	9:41	9:49	9:56	10:04	10:11	10:19
Fortitude Valley	8:43	8:45	8:48	8:50	8:53	8:55	8:58	9:06	9:08	9:16	9:18	9:26	9:28	9:36	9:43	9:51	9:58	10:06	10:13	10:21
Central	8:47	8:49	8:52	8:54	8:57	8:59	9:02	9:10	9:12	9:20	9:22	9:30	9:32	9:40	9:47	9:55	10:02	10:10	10:17	10:25
Roma Street	8:50	8:52	8:55	8:57	9:00	9:02	9:05	9:13	9:15	9:23	9:25	9:33	9:35	9:43	9:50	9:58	10:05	10:13	10:20	10:28
South Brisbane	8:55	8:57	9:00	9:02	9:05	9:07	9:10	9:18	9:20	9:28	9:30	9:38	9:40	9:48	9:55	10:03	10:10	10:18	10:25	10:33
South Bank	8:57	8:59	9:02	9:04	9:07	9:09	9:12	9:20	9:22	9:30	9:32	9:40	9:42	9:50	9:57	10:05	10:12	10:20	10:27	10:35
Park Road	9:00	9:02	9:05	9:07	9:10	9:12	9:15	9:23	9:25	9:33	9:35	9:43	9:45	9:53	10:00	10:08	10:15	10:23	10:30	10:38
Dutton Park	9:02	9:04	9:07	9:09	9:12	9:14	9:17	9:25	9:27	9:35	9:37	9:45	9:47	9:55	10:02	10:10	10:17	10:25	10:32	10:40
Fairfield	9:04	9:06	9:09	9:11	9:14	9:16	9:19	9:27	9:29	9:37	9:39	9:47	9:49	9:57	10:04	10:12	10:19	10:27	10:34	10:42
Yeronga	9:06	9:08	9:11	9:13	9:16	9:18	9:21	9:29	9:31	9:39	9:41	9:49	9:51	9:59	10:06	10:14	10:21	10:29	10:36	10:44
Yeerongpilly	9:08	9:10	9:13	9:15	9:18	9:20	9:23	9:31	9:33	9:41	9:43	9:51	9:53	10:01	10:08	10:16	10:23	10:31	10:38	10:46
Moorooka	9:10	9:12	9:15	9:17	9:20	9:22	9:25	9:33	9:35	9:43	9:45	9:53	9:55	10:03	10:10	10:18	10:25	10:33	10:40	10:48
Rocklea	9:12	9:14	9:17	9:19	9:22	9:24	9:27	9:35	9:37	9:45	9:47	9:55	9:57	10:05	10:12	10:20	10:27	10:35	10:42	10:50
Salisbury	9:14	9:16	9:19	9:21	9:24	9:26	9:29	9:37	9:39	9:47	9:49	9:57	9:59	10:07	10:14	10:22	10:29	10:37	10:44	10:52
Acacia Ridge					9:28			9:41			9:53			10:11		10:26		10:41		10:56
Algester					9:32			9:45			9:57			10:15		10:30		10:45		11:00
Hillcrest					9:36			9:49			10:01			10:19		10:34		10:49		11:04
Boronia Heights					9:40			9:53			10:05			10:23		10:38		10:53		11:08
Greenbank					9:42			9:55			10:07			10:25		10:40		10:55		11:10
New Beith					9:46			9:59			10:11			10:29		10:44		10:59		11:14
Flagstone Central					9:51			10:04			10:16			10:34		10:49		11:04		11:19
Undullah					9:54			10:07			10:19			10:37		10:52		11:07		11:22
Gleneagle North					10:03			10:16			10:28			10:46		11:01		11:16		11:31
Gleneagle					10:06			10:19			10:31			10:49		11:04		11:19		11:34
Beaudesert					10:09			10:22			10:34			10:52		11:07		11:22		11:37

Ferny Grove	10:00	10:15	10:30	10:45	11:00	11:15	11:30
Keperra	10:04	10:19	10:34	10:49	11:04	11:19	11:34
Grovely	10:06	10:21	10:36	10:51	11:06	11:21	11:36
Oxford Park	10:08	10:23	10:38	10:53	11:08	11:23	11:38
Mitchelton	10:10	10:25	10:40	10:55	11:10	11:25	11:40
Gaythorne	10:12	10:27	10:42	10:57	11:12	11:27	11:42
Enoggera	10:14	10:29	10:44	10:59	11:14	11:29	11:44
Alderley	10:16	10:31	10:46	11:01	11:16	11:31	11:46
Newmarket	10:18	10:33	10:48	11:03	11:18	11:33	11:48
Wilston	10:20	10:35	10:50	11:05	11:20	11:35	11:50
Windsor	10:22	10:37	10:52	11:07	11:22	11:37	11:52

Shorncliffe	10:02	10:17	10:32	10:47	11:02	11:17	11:32
Sandgate	10:04	10:19	10:34	10:49	11:04	11:19	11:34
Deagon	10:06	10:21	10:36	10:51	11:06	11:21	11:36
North Boondall	10:08	10:23	10:38	10:53	11:08	11:23	11:38
Boondall	10:10	10:25	10:40	10:55	11:10	11:25	11:40
Nudgee	10:13	10:28	10:43	10:58	11:13	11:28	11:43
Banyo	10:15	10:30	10:45	11:00	11:15	11:30	11:45
Bindha	10:17	10:32	10:47	11:02	11:17	11:32	11:47
Northgate	10:20	10:35	10:50	11:05	11:20	11:35	11:50
Nundah	10:22	10:37	10:52	11:07	11:22	11:37	11:52
Toombul	10:24	10:39	10:54	11:09	11:24	11:39	11:54
Eagle Junction	10:26	10:41	10:56	11:11	11:26	11:41	11:56
Wooloowin	10:28	10:43	10:58	11:13	11:28	11:43	11:58
Albion	10:30	10:45	11:00	11:15	11:30	11:45	12:00
Bowen Hills	10:26	10:34	10:41	10:49	10:56	11:04	11:11	11:19	11:26	11:34	11:41	11:49	11:56	12:04
Fortitude Valley	10:28	10:36	10:43	10:51	10:58	11:06	11:13	11:21	11:28	11:36	11:43	11:51	11:58	12:06
Central	10:32	10:40	10:47	10:55	11:02	11:10	11:17	11:25	11:32	11:40	11:47	11:55	12:02	12:10
Roma Street	10:35	10:43	10:50	10:58	11:05	11:13	11:20	11:28	11:35	11:43	11:50	11:58	12:05	12:13
South Brisbane	10:40	10:48	10:55	11:03	11:10	11:18	11:25	11:33	11:40	11:48	11:55	12:03	12:10	12:18
South Bank	10:42	10:50	10:57	11:05	11:12	11:20	11:27	11:35	11:42	11:50	11:57	12:05	12:12	12:20
Park Road	10:45	10:53	11:00	11:08	11:15	11:23	11:30	11:38	11:45	11:53	12:00	12:08	12:15	12:23
Dutton Park	10:47	10:55	11:02	11:10	11:17	11:25	11:32	11:40	11:47	11:55	12:02	12:10	12:17	12:25
Fairfield	10:49	10:57	11:04	11:12	11:19	11:27	11:34	11:42	11:49	11:57	12:04	12:12	12:19	12:27
Yeronga	10:51	10:59	11:06	11:14	11:21	11:29	11:36	11:44	11:51	11:59	12:06	12:14	12:21	12:29
Yeerongpilly	10:53	11:01	11:08	11:16	11:23	11:31	11:38	11:46	11:53	12:01	12:08	12:16	12:23	12:31
Moorooka	10:55	11:03	11:10	11:18	11:25	11:33	11:40	11:48	11:55	12:03	12:10	12:18	12:25	12:33
Rocklea	10:57	11:05	11:12	11:20	11:27	11:35	11:42	11:50	11:57	12:05	12:12	12:20	12:27	12:35
Salisbury	10:59	11:07	11:14	11:22	11:29	11:37	11:44	11:52	11:59	12:07	12:14	12:22	12:29	12:37
Acacia Ridge		11:11		11:26		11:41		11:56						
Algester		11:15		11:30		11:45		12:00						
Hillcrest		11:19		11:34		11:49		12:04						
Boronia Heights		11:23		11:38		11:53		12:08						
Greenbank		11:25		11:40		11:55		12:10						
New Beith		11:29		11:44		11:59		12:14						
Flagstone Central		11:34		11:49		12:04		12:19						
Undullah		11:37		11:52		12:07		12:22						
Gleneagle North		11:46		12:01		12:16		12:31						
Gleneagle		11:49		12:04		12:19		12:34						
Beaudesert		11:52		12:07		12:22		12:37						

Coastal sector

Coolangatta Airport					4:27			4:42			4:57		5:04
Tugun					4:31			4:46			5:01		5:08
Elanora					4:35			4:50			5:05		5:12
Tallebudgera					4:39			4:54			5:09		5:16
Varsity Lakes					4:43			4:58			5:13		5:20
Robina					4:47			5:02			5:17		5:24
Merrimac					4:50			5:05			5:20		5:27
Nerang					4:56			5:11			5:26		5:33
Helensvale					5:01			5:16			5:31		5:38
Helensvale North					5:05			5:20			5:35		5:42
Coomera					5:09			5:24			5:39		5:46
Pimpama					5:13			5:28			5:43		5:50
Ormeau					5:16			5:31			5:46		5:53
Beenleigh				5:08	5:23		5:23	5:38		5:38	5:53		6:00
Holmview				5:11	|		5:26	|		5:41	|		|
Edens Landing				5:14	|		5:29	|		5:44	|		|
Bethania				5:16	|		5:31	|		5:46	|		|
Loganlea				5:20	5:31		5:35	5:46		5:50	6:01		6:08
Kingston				5:22	|		5:37	|		5:52	|		|
Woodridge				5:26	|		5:41	|		5:56	|		|
Trinder Park				5:28	|		5:43	|		5:58	|		|
Kuraby				5:33	|		5:48	|		6:03	|		|
Fruitgrove				5:35	|		5:50	|		6:05	|		|
Runcorn				5:36	|		5:51	|		6:06	|		|
Altandi				5:38	|		5:53	|		6:08	|		|
Sunnybank				5:41	|		5:56	|		6:11	|		|
Banoon				5:43	|		5:58	|		6:13	|		|
Coopers Plains				5:45	|		6:00	|		6:15	|		|
Salisbury				5:48	5:51		6:03	6:06		6:18	6:21		6:28	
Yeerongpilly	5:07	5:22	5:37	5:45	5:52	5:55	6:00	6:07	6:10	6:15	6:22	6:25	6:30	6:32
Park Road	5:11	5:26	5:41	5:49	5:56	5:59	6:04	6:11	6:14	6:19	6:26	6:29	6:34	6:36
Wooloongabba	5:13	5:28	5:43	5:51	5:58	6:01	6:06	6:13	6:16	6:21	6:28	6:31	6:36	6:38
Albert Street	5:15	5:30	5:45	5:53	6:00	6:03	6:08	6:15	6:18	6:23	6:30	6:33	6:38	6:40
Roma Street	5:17	5:32	5:47	5:55	6:02	6:05	6:10	6:17	6:20	6:25	6:32	6:35	6:40	6:42
Exhibition	5:20	5:35	5:50		6:05			6:20			6:35			
Wooloowin	5:26	5:41	5:56		6:11			6:26			6:41			
Brisbane International Airport	5:34	5:49	6:04		6:19			6:34			6:49			
Brisbane Domestic Airport	5:38	5:53	6:08		6:23			6:38			6:53			

Coolangatta Airport		5:12		5:19		5:27			5:32		5:37		5:42		5:47		5:52	
Tugun		5:16		5:23		5:31			5:36		5:41		5:46		5:51		5:56	
Elanora		5:20		5:27		5:35			5:40		5:45		5:50		5:55		6:00	
Tallebudgera		5:24		5:31		5:39			5:44		5:49		5:54		5:59		6:04	
Varsity Lakes		5:28		5:35		5:43			5:48		5:53		5:58		6:03		6:08	
Robina		5:32		5:39		5:47			5:52		5:57		6:02		6:07		6:12	
Merrimac		5:35		5:42		5:50			5:55		6:00		6:05		6:10		6:15	
Nerang		5:41		5:48		5:56			6:01		6:06		6:11		6:16		6:21	
Helensvale		5:46		5:53		6:01			6:06		6:11		6:16		6:21		6:26	
Helensvale North		5:50		5:57		6:05			6:10		6:15		6:20		6:25		6:30	
Coomera		5:54		6:01		6:09			6:14		6:19		6:24		6:29		6:34	
Pimpama		5:58		6:05		6:13			6:18		6:23		6:28		6:33		6:38	
Ormeau		6:01		6:08		6:16			6:21		6:26		6:31		6:36		6:41	
Beenleigh	5:53	6:08		6:15	6:08	6:23		6:13	6:28	6:18	6:33	6:23	6:38	6:28	6:43	6:33	6:48	6:38
Holmview	5:56	|		|	6:11	|		6:16	|	6:21	|	6:26	|	6:31	|	6:36	|	6:41
Edens Landing	5:59	|		|	6:14	|		6:19	|	6:24	|	6:29	|	6:34	|	6:39	|	6:44
Bethania	6:01	|		|	6:16	|		6:21	|	6:26	|	6:31	|	6:36	|	6:41	|	6:46
Loganlea	6:05	6:16		6:23	6:20	6:31		6:25	6:36	6:30	6:41	6:35	6:46	6:40	6:51	6:45	6:56	6:50
Kingston	6:07	|		|	6:22	|		6:27	|	6:32	|	6:37	|	6:42	|	6:47	|	6:52
Woodridge	6:11	|		|	6:26	|		6:31	|	6:36	|	6:41	|	6:46	|	6:51	|	6:56
Trinder Park	6:13	|		|	6:28	|		6:33	|	6:38	|	6:43	|	6:48	|	6:53	|	6:58
Kuraby	6:18	|		|	6:33	|		6:38	|	6:43	|	6:48	|	6:53	|	6:58	|	7:03
Fruitgrove	6:20	|		|	6:35	|		6:40	|	6:45	|	6:50	|	6:55	|	7:00	|	7:05
Runcorn	6:21	|		|	6:36	|		6:41	|	6:46	|	6:51	|	6:56	|	7:01	|	7:06
Altandi	6:23	|		|	6:38	|		6:43	|	6:48	|	6:53	|	6:58	|	7:03	|	7:08
Sunnybank	6:26	|		|	6:41	|		6:46	|	6:51	|	6:56	|	7:01	|	7:06	|	7:11
Banoon	6:28	|		|	6:43	|		6:48	|	6:53	|	6:58	|	7:03	|	7:08	|	7:13
Coopers Plains	6:30	|		|	6:45	|		6:50	|	6:55	|	7:00	|	7:05	|	7:10	|	7:15
Salisbury	6:33	6:36		6:43	6:48	6:51		6:53	6:56	6:58	7:01	7:03	7:06	7:08	7:11	7:13	7:16	7:18
Yeerongpilly	6:37	6:40	6:45	6:47	6:52	6:55		6:57	7:00	7:02	7:05	7:07	7:10	7:12	7:15	7:17	7:20	7:22
Park Road	6:41	6:44	6:49	6:51	6:56	6:59		7:01	7:04	7:06	7:09	7:11	7:14	7:16	7:19	7:21	7:24	7:26
Wooloongabba	6:43	6:46	6:51	6:53	6:58	7:01		7:03	7:06	7:08	7:11	7:13	7:16	7:18	7:21	7:23	7:26	7:28
Albert Street	6:45	6:48	6:53	6:55	7:00	7:03		7:05	7:08	7:10	7:13	7:15	7:18	7:20	7:23	7:25	7:28	7:30
Roma Street	6:47	6:50	6:55	6:57	7:02	7:05		7:07	7:10	7:12	7:15	7:17	7:20	7:22	7:25	7:27	7:30	7:32
Exhibition	6:50				7:05			7:10		7:15		7:20		7:25		7:30	7:33	7:35
Wooloowin	6:56				7:11							7:26						7:41
Brisbane International Airport	7:04				7:19							7:34						7:49
Brisbane Domestic Airport	7:08				7:23							7:38						7:53

Coolangatta Airport	5:57		6:02		6:07		6:12		6:17		6:22		6:27		6:32		6:37
Tugun	6:01		6:06		6:11		6:16		6:21		6:26		6:31		6:36		6:41
Elanora	6:05		6:10		6:15		6:20		6:25		6:30		6:35		6:40		6:45
Tallebudgera	6:09		6:14		6:19		6:24		6:29		6:34		6:39		6:44		6:49
Varsity Lakes	6:13		6:18		6:23		6:28		6:33		6:38		6:43		6:48		6:53
Robina	6:17		6:22		6:27		6:32		6:37		6:42		6:47		6:52		6:57
Merrimac	6:20		6:25		6:30		6:35		6:40		6:45		6:50		6:55		7:00
Nerang	6:26		6:31		6:36		6:41		6:46		6:51		6:56		7:01		7:06
Helensvale	6:31		6:36		6:41		6:46		6:51		6:56		7:01		7:06		7:11
Helensvale North	6:35		6:40		6:45		6:50		6:55		7:00		7:05		7:10		7:15
Coomera	6:39		6:44		6:49		6:54		6:59		7:04		7:09		7:14		7:19
Pimpama	6:43		6:48		6:53		6:58		7:03		7:08		7:13		7:18		7:23
Ormeau	6:46		6:51		6:56		7:01		7:06		7:11		7:16		7:21		7:26
Beenleigh	6:53	6:43	6:58	6:48	7:03	6:53	7:08	6:58	7:13	7:03	7:18	7:08	7:23	7:13	7:28	7:18	7:33
Holmview	|	6:46	|	6:51	|	6:56	|	7:01	|	7:06	|	7:11	|	7:16	|	7:21	|
Edens Landing	|	6:49	|	6:54	|	6:59	|	7:04	|	7:09	|	7:14	|	7:19	|	7:24	|
Bethania	|	6:51	|	6:56	|	7:01	|	7:06	|	7:11	|	7:16	|	7:21	|	7:26	|
Loganlea	7:01	6:55	7:06	7:00	7:11	7:05	7:16	7:10	7:21	7:15	7:26	7:20	7:31	7:25	7:36	7:30	7:41
Kingston	|	6:57	|	7:02	|	7:07	|	7:12	|	7:17	|	7:22	|	7:27	|	7:32	|
Woodridge	|	7:01	|	7:06	|	7:11	|	7:16	|	7:21	|	7:26	|	7:31	|	7:36	|
Trinder Park	|	7:03	|	7:08	|	7:13	|	7:18	|	7:23	|	7:28	|	7:33	|	7:38	|
Kuraby	|	7:08	|	7:13	|	7:18	|	7:23	|	7:28	|	7:33	|	7:38	|	7:43	|
Fruitgrove	|	7:10	|	7:15	|	7:20	|	7:25	|	7:30	|	7:35	|	7:40	|	7:45	|
Runcorn	|	7:11	|	7:16	|	7:21	|	7:26	|	7:31	|	7:36	|	7:41	|	7:46	|
Altandi	|	7:13	|	7:18	|	7:23	|	7:28	|	7:33	|	7:38	|	7:43	|	7:48	|
Sunnybank	|	7:16	|	7:21	|	7:26	|	7:31	|	7:36	|	7:41	|	7:46	|	7:51	|
Banoon	|	7:18	|	7:23	|	7:28	|	7:33	|	7:38	|	7:43	|	7:48	|	7:53	|
Coopers Plains	|	7:20	|	7:25	|	7:30	|	7:35	|	7:40	|	7:45	|	7:50	|	7:55	|
Salisbury	7:21	7:23	7:26	7:28	7:31	7:33	7:36	7:38	7:41	7:43	7:46	7:48	7:51	7:53	7:56	7:58	8:01
Yeerongpilly	7:25	7:27	7:30	7:32	7:35	7:37	7:40	7:42	7:45	7:47	7:50	7:52	7:55	7:57	8:00	8:02	8:05
Park Road	7:29	7:31	7:34	7:36	7:39	7:41	7:44	7:46	7:49	7:51	7:54	7:56	7:59	8:01	8:04	8:06	8:09
Wooloongabba	7:31	7:33	7:36	7:38	7:41	7:43	7:46	7:48	7:51	7:53	7:56	7:58	8:01	8:03	8:06	8:08	8:11
Albert Street	7:33	7:35	7:38	7:40	7:43	7:45	7:48	7:50	7:53	7:55	7:58	8:00	8:03	8:05	8:08	8:10	8:13
Roma Street	7:35	7:37	7:40	7:42	7:45	7:47	7:50	7:52	7:55	7:57	8:00	8:02	8:05	8:07	8:10	8:12	8:15
Exhibition		7:40		7:45	7:48	7:50		7:55		8:00	8:03	8:05		8:10		8:15	8:18
Wooloowin						7:56						8:11					
Brisbane International Airport						8:04						8:19					
Brisbane Domestic Airport						8:08						8:23					

Coolangatta Airport		6:42		6:47		6:52		6:57		7:02		7:07		7:12		7:17			
Tugun		6:46		6:51		6:56		7:01		7:06		7:11		7:16		7:21			
Elanora		6:50		6:55		7:00		7:05		7:10		7:15		7:20		7:25			
Tallebudgera		6:54		6:59		7:04		7:09		7:14		7:19		7:24		7:29			
Varsity Lakes		6:58		7:03		7:08		7:13		7:18		7:23		7:28		7:33			
Robina		7:02		7:07		7:12		7:17		7:22		7:27		7:32		7:37			
Merrimac		7:05		7:10		7:15		7:20		7:25		7:30		7:35		7:40			
Nerang		7:11		7:16		7:21		7:26		7:31		7:36		7:41		7:46			
Helensvale		7:16		7:21		7:26		7:31		7:36		7:41		7:46		7:51			
Helensvale North		7:20		7:25		7:30		7:35		7:40		7:45		7:50		7:55			
Coomera		7:24		7:29		7:34		7:39		7:44		7:49		7:54		7:59			
Pimpama		7:28		7:33		7:38		7:43		7:48		7:53		7:58		8:03			
Ormeau		7:31		7:36		7:41		7:46		7:51		7:56		8:01		8:06			
Beenleigh	7:23	7:38	7:28	7:43	7:33	7:48	7:38	7:53	7:43	7:58	7:48	8:03	7:53	8:08	7:58	8:13	8:03		
Holmview	7:26	|	7:31	|	7:36	|	7:41	|	7:46	|	7:51	|	7:56	|	8:01	|	8:06	
Edens Landing	7:29	|	7:34	|	7:39	|	7:44	|	7:49	|	7:54	|	7:59	|	8:04	|	8:09	
Bethania	7:31	|	7:36	|	7:41	|	7:46	|	7:51	|	7:56	|	8:01	|	8:06	|	8:11	
Loganlea	7:35	7:46	7:40	7:51	7:45	7:56	7:50	8:01	7:55	8:06	8:00	8:11	8:05	8:16	8:10	8:21	8:15		
Kingston	7:37	|	7:42	|	7:47	|	7:52	|	7:57	|	8:02	|	8:07	|	8:12	|	8:17	
Woodridge	7:41	|	7:46	|	7:51	|	7:56	|	8:01	|	8:06	|	8:11	|	8:16	|	8:21	
Trinder Park	7:43	|	7:48	|	7:53	|	7:58	|	8:03	|	8:08	|	8:13	|	8:18	|	8:23	
Kuraby	7:48	|	7:53	|	7:58	|	8:03	|	8:08	|	8:13	|	8:18	|	8:23	|	8:28	
Fruitgrove	7:50	|	7:55	|	8:00	|	8:05	|	8:10	|	8:15	|	8:20	|	8:25	|	8:30	
Runcorn	7:51	|	7:56	|	8:01	|	8:06	|	8:11	|	8:16	|	8:21	|	8:26	|	8:31	
Altandi	7:53	|	7:58	|	8:03	|	8:08	|	8:13	|	8:18	|	8:23	|	8:28	|	8:33	
Sunnybank	7:56	|	8:01	|	8:06	|	8:11	|	8:16	|	8:21	|	8:26	|	8:31	|	8:36	
Banoon	7:58	|	8:03	|	8:08	|	8:13	|	8:18	|	8:23	|	8:28	|	8:33	|	8:38	
Coopers Plains	8:00	|	8:05	|	8:10	|	8:15	|	8:20	|	8:25	|	8:30	|	8:35	|	8:40	
Salisbury	8:03	8:06	8:08	8:11	8:13	8:16	8:18	8:21	8:23	8:26	8:28	8:31	8:33	8:36	8:38	8:41	8:43		
Yeerongpilly	8:07	8:10	8:12	8:15	8:17	8:20	8:22	8:25	8:27	8:30	8:32	8:35	8:37	8:40	8:42	8:45	8:47		
Park Road	8:11	8:14	8:16	8:19	8:21	8:24	8:26	8:29	8:31	8:34	8:36	8:39	8:41	8:44	8:46	8:49	8:51		
Wooloongabba	8:13	8:16	8:18	8:21	8:23	8:26	8:28	8:31	8:33	8:36	8:38	8:41	8:43	8:46	8:48	8:51	8:53		
Albert Street	8:15	8:18	8:20	8:23	8:25	8:28	8:30	8:33	8:35	8:38	8:40	8:43	8:45	8:48	8:50	8:53	8:55		
Roma Street	8:17	8:20	8:22	8:25	8:27	8:30	8:32	8:35	8:37	8:40	8:42	8:45	8:47	8:50	8:52	8:55	8:57		
Exhibition	8:20		8:25		8:30	8:33	8:35		8:40		8:45	8:48	8:50		8:55		9:00		
Wooloowin	8:26						8:41						8:56						
Brisbane International Airport	8:34						8:49						9:04						
Brisbane Domestic Airport	8:38						8:53						9:08						

Coolangatta Airport	7:22		7:27		7:34		7:42		7:49		7:57			8:12			
Tugun	7:26		7:31		7:38		7:46		7:53		8:01			8:16			
Elanora	7:30		7:35		7:42		7:50		7:57		8:05			8:20			
Tallebudgera	7:34		7:39		7:46		7:54		8:01		8:09			8:24			
Varsity Lakes	7:38		7:43		7:50		7:58		8:05		8:13			8:28			
Robina	7:42		7:47		7:54		8:02		8:09		8:17			8:32			
Merrimac	7:45		7:50		7:57		8:05		8:12		8:20			8:35			
Nerang	7:51		7:56		8:03		8:11		8:18		8:26			8:41			
Helensvale	7:56		8:01		8:08		8:16		8:23		8:31			8:46			
Helensvale North	8:00		8:05		8:12		8:20		8:27		8:35			8:50			
Coomera	8:04		8:09		8:16		8:24		8:31		8:39			8:54			
Pimpama	8:08		8:13		8:20		8:28		8:35		8:43			8:58			
Ormeau	8:11		8:16		8:23		8:31		8:38		8:46			9:01			
Beenleigh	8:18	8:08	8:23	8:15	8:30	8:23	8:38	8:30	8:45	8:38	8:53		8:53	9:08	9:08		
Holmview	|	8:11	|	8:18	|	8:26	|	8:33	|	8:41	|		8:56	|	9:11		
Edens Landing	|	8:14	|	8:21	|	8:29	|	8:36	|	8:44	|		8:59	|	9:14		
Bethania	|	8:16	|	8:23	|	8:31	|	8:38	|	8:46	|		9:01	|	9:16		
Loganlea	8:26	8:20	8:31	8:27	8:38	8:35	8:46	8:42	8:53	8:50	9:01		9:05	9:16	9:20		
Kingston	|	8:22	|	8:29	|	8:37	|	8:44	|	8:52	|		9:07	|	9:22		
Woodridge	|	8:26	|	8:33	|	8:41	|	8:48	|	8:56	|		9:11	|	9:26		
Trinder Park	|	8:28	|	8:35	|	8:43	|	8:50	|	8:58	|		9:13	|	9:28		
Kuraby	|	8:33	|	8:40	|	8:48	|	8:55	|	9:03	|		9:18	|	9:33		
Fruitgrove	|	8:35	|	8:42	|	8:50	|	8:57	|	9:05	|		9:20	|	9:35		
Runcorn	|	8:36	|	8:43	|	8:51	|	8:58	|	9:06	|		9:21	|	9:36		
Altandi	|	8:38	|	8:45	|	8:53	|	9:00	|	9:08	|		9:23	|	9:38		
Sunnybank	|	8:41	|	8:48	|	8:56	|	9:03	|	9:11	|		9:26	|	9:41		
Banoon	|	8:43	|	8:50	|	8:58	|	9:05	|	9:13	|		9:28	|	9:43		
Coopers Plains	|	8:45	|	8:52	|	9:00	|	9:07	|	9:15	|		9:30	|	9:45		
Salisbury	8:46	8:48	8:51	8:55	8:58	9:03	9:06	9:10	9:13	9:18	9:21			9:33	9:36		9:48
Yeerongpilly	8:50	8:52	8:55	8:59	9:02	9:07	9:10	9:14	9:17	9:22	9:25		9:30	9:37	9:40	9:45	9:52
Park Road	8:54	8:56	8:59	9:03	9:06	9:11	9:14	9:18	9:21	9:26	9:29		9:34	9:41	9:44	9:49	9:56
Wooloongabba	8:56	8:58	9:01	9:05	9:08	9:13	9:16	9:20	9:23	9:28	9:31		9:36	9:43	9:46	9:51	9:58
Albert Street	8:58	9:00	9:03	9:07	9:10	9:15	9:18	9:22	9:25	9:30	9:33		9:38	9:45	9:48	9:53	10:00
Roma Street	9:00	9:02	9:05	9:09	9:12	9:17	9:20	9:24	9:27	9:32	9:35		9:40	9:47	9:50	9:55	10:02
Exhibition	9:03	9:05				9:20				9:35				9:50			10:05
Wooloowin		9:11				9:26				9:41				9:56			10:11
Brisbane International Airport		9:19				9:34				9:49				10:04			10:19
Brisbane Domestic Airport		9:23				9:38				9:53				10:08			10:23

Coolangatta Airport	8:27			8:42			8:57			9:12			9:27			9:42		
Tugun	8:31			8:46			9:01			9:16			9:31			9:46		
Elanora	8:35			8:50			9:05			9:20			9:35			9:50		
Tallebudgera	8:39			8:54			9:09			9:24			9:39			9:54		
Varsity Lakes	8:43			8:58			9:13			9:28			9:43			9:58		
Robina	8:47			9:02			9:17			9:32			9:47			10:02		
Merrimac	8:50			9:05			9:20			9:35			9:50			10:05		
Nerang	8:56			9:11			9:26			9:41			9:56			10:11		
Helensvale	9:01			9:16			9:31			9:46			10:01			10:16		
Helensvale North	9:05			9:20			9:35			9:50			10:05			10:20		
Coomera	9:09			9:24			9:39			9:54			10:09			10:24		
Pimpama	9:13			9:28			9:43			9:58			10:13			10:28		
Ormeau	9:16			9:31			9:46			10:01			10:16			10:31		
Beenleigh	9:23		9:23	9:38		9:38	9:53		9:53	10:08		10:08	10:23		10:23	10:38		
Holmview	|		9:26	|		9:41	|		9:56	|		10:11	|		10:26	|	
Edens Landing	|		9:29	|		9:44	|		9:59	|		10:14	|		10:29	|	
Bethania	|		9:31	|		9:46	|		10:01	|		10:16	|		10:31	|	
Loganlea	9:31		9:35	9:46		9:50	10:01		10:05	10:16		10:20	10:31		10:35	10:46		
Kingston	|		9:37	|		9:52	|		10:07	|		10:22	|		10:37	|	
Woodridge	|		9:41	|		9:56	|		10:11	|		10:26	|		10:41	|	
Trinder Park	|		9:43	|		9:58	|		10:13	|		10:28	|		10:43	|	
Kuraby	|		9:48	|		10:03	|		10:18	|		10:33	|		10:48	|	
Fruitgrove	|		9:50	|		10:05	|		10:20	|		10:35	|		10:50	|	
Runcorn	|		9:51	|		10:06	|		10:21	|		10:36	|		10:51	|	
Altandi	|		9:53	|		10:08	|		10:23	|		10:38	|		10:53	|	
Sunnybank	|		9:56	|		10:11	|		10:26	|		10:41	|		10:56	|	
Banoon	|		9:58	|		10:13	|		10:28	|		10:43	|		10:58	|	
Coopers Plains	|		10:00	|		10:15	|		10:30	|		10:45	|		11:00	|	
Salisbury	9:51			10:03	10:06		10:18	10:21		10:33	10:36		10:48	10:51		11:03	11:06	
Yeerongpilly	9:55	10:00		10:07	10:10	10:15	10:22	10:25	10:30	10:37	10:40	10:45	10:52	10:55	11:00	11:07	11:10	
Park Road	9:59	10:04		10:11	10:14	10:19	10:26	10:29	10:34	10:41	10:44	10:49	10:56	10:59	11:04	11:11	11:14	
Wooloongabba	10:01	10:06		10:13	10:16	10:21	10:28	10:31	10:36	10:43	10:46	10:51	10:58	11:01	11:06	11:13	11:16	
Albert Street	10:03	10:08		10:15	10:18	10:23	10:30	10:33	10:38	10:45	10:48	10:53	11:00	11:03	11:08	11:15	11:18	
Roma Street	10:05	10:10		10:17	10:20	10:25	10:32	10:35	10:40	10:47	10:50	10:55	11:02	11:05	11:10	11:17	11:20	
Exhibition				10:20			10:35			10:50			11:05			11:20		
Wooloowin				10:26			10:41			10:56			11:11			11:26		
Brisbane International Airport				10:34			10:49			11:04			11:19			11:34		
Brisbane Domestic Airport				10:38			10:53			11:08			11:23			11:38		

Salisbury					5:48	5:51		6:03	6:06		6:18	6:21		6:28
Yeerongpilly	5:07	5:22	5:37	5:45	5:52	5:55	6:00	6:07	6:10	6:15	6:22	6:25	6:30	6:32
Park Road	5:11	5:26	5:41	5:49	5:56	5:59	6:04	6:11	6:14	6:19	6:26	6:29	6:34	6:36
Wooloongabba	5:13	5:28	5:43	5:51	5:58	6:01	6:06	6:13	6:16	6:21	6:28	6:31	6:36	6:38
Albert Street	5:15	5:30	5:45	5:53	6:00	6:03	6:08	6:15	6:18	6:23	6:30	6:33	6:38	6:40
Roma Street	5:17	5:32	5:47	5:55	6:02	6:05	6:10	6:17	6:20	6:25	6:32	6:35	6:40	6:42
Exhibition	5:20	5:35	5:50		6:05			6:20			6:35			
Wooloowin	5:26	5:41	5:56		6:11			6:26			6:41			
Brisbane International Airport	5:34	5:49	6:04		6:19			6:34			6:49			
Brisbane Domestic Airport	5:38	5:53	6:08		6:23			6:38			6:53			
Ashgrove				5:58		|	6:13		|	6:28		|	6:43	|
Enoggera				6:01		|	6:16		|	6:31		|	6:46	|
Chermside West				6:05		|	6:20		|	6:35		|	6:50	|
Aspley				6:07		|	6:22		|	6:37		|	6:52	|
Strathpine				6:12		6:19	6:27		6:34	6:42		6:49	6:57	
Petrie				6:16		6:23	6:31		6:38	6:46		6:53	7:01	
Dakabin				6:21		|	6:36		|	6:51		|	7:06	
Narangba				6:25		|	6:40		|	6:55		|	7:10	(07:12)
Burpengary				6:29		|	6:44		|	6:59		|	7:14	
Morayfield				6:34		|	6:49		|	7:04		|	7:19	
Caboolture				6:37		6:39	6:52		6:54	7:07		7:09	7:22	(07:27)
Elimbah						6:46			7:01			7:16		
Beerburrum						6:51			7:06			7:21		
Glass House Mountains						6:59			7:14			7:29		
Beerwah	6:04	6:19	6:34		6:49	7:04			7:19			7:34		
Pelican Waters	6:14	6:29	6:44		6:59	7:14			7:29			7:44		
Caloundra	6:18	6:33	6:48		7:03	7:18			7:33			7:48		
Aroona	6:21	6:36	6:51		7:06	7:21			7:36			7:51		
Erang Street	6:23	6:38	6:53		7:08	7:23			7:38			7:53		
Kawana	6:25	6:40	6:55		7:10	7:25			7:40			7:55		
Parrearra	6:29	6:44	6:59		7:14	7:29			7:44			7:59		
Mooloolaba	6:33	6:48	7:03		7:18	7:33			7:48			8:03		
Maroochydore	6:37	6:52	7:07		7:22	7:37			7:52			8:07		

Beerwah	7:08	7:38
Landsborough	7:13	7:43
Mooloolah	7:19	7:49
Eudlo	7:26	7:56
Palmwoods	7:32	8:02
Woombye	7:36	8:06
Nambour	7:41	8:11
Yandina		8:20
Eumundi		8:27
Cooroy		8:33
Pomona		8:41
Cooran		8:48
Traveston		8:54
Gympie North		9:12

Salisbury	6:33	6:36		6:43	6:48	6:51		6:53	6:56	6:58	7:01	7:03	7:06	7:08	7:11	7:13	7:16	7:18
Yeerongpilly	6:37	6:40	6:45	6:47	6:52	6:55		6:57	7:00	7:02	7:05	7:07	7:10	7:12	7:15	7:17	7:20	7:22
Park Road	6:41	6:44	6:49	6:51	6:56	6:59		7:01	7:04	7:06	7:09	7:11	7:14	7:16	7:19	7:21	7:24	7:26
Wooloongabba	6:43	6:46	6:51	6:53	6:58	7:01		7:03	7:06	7:08	7:11	7:13	7:16	7:18	7:21	7:23	7:26	7:28
Albert Street	6:45	6:48	6:53	6:55	7:00	7:03		7:05	7:08	7:10	7:13	7:15	7:18	7:20	7:23	7:25	7:28	7:30
Roma Street	6:47	6:50	6:55	6:57	7:02	7:05		7:07	7:10	7:12	7:15	7:17	7:20	7:22	7:25	7:27	7:30	7:32
Exhibition	6:50				7:05			7:10		7:15		7:20		7:25		7:30	7:33	7:35
Wooloowin	6:56				7:11							7:26						7:41
Brisbane International Airport	7:04				7:19							7:34						7:49
Brisbane Domestic Airport	7:08				7:23							7:38						7:53
Ashgrove		|	6:58	|		|			7:13		|		|		7:28			
Enoggera		|	7:01	|		|			7:16		|		|		7:31			
Chermside West		|	7:05	|		|			7:20		|		|		7:35			
Aspley		|	7:07	|		|			7:22		|		|		7:37			
Strathpine		7:04	7:12			7:19		(07:21)		7:27				7:34			7:42			
Petrie		7:08	7:16			7:23		(07:25)		7:31				7:38			7:46			
Dakabin		|	7:21			|			7:36				|			7:51			
Narangba		|	7:25	(07:27)		|			7:40			(07:45)		|		7:55			
Burpengary		|	7:29			|			7:44				|			7:59			
Morayfield		|	7:34			|			7:49				|			8:04			
Caboolture		7:24	7:37	(07:42)		7:39		7:45		7:52			(07:57)		7:54			8:07		
Elimbah		7:31				7:46									8:01					
Beerburrum		7:36				7:51									8:06					
Glass House Mountains		7:44				7:59									8:14					
Beerwah		7:49		8:07		8:04									8:19					
Pelican Waters		7:59				8:14									8:29					
Caloundra		8:03				8:18									8:33					
Aroona		8:06				8:21									8:36					
Erang Street		8:08				8:23									8:38					
Kawana		8:10				8:25									8:40					
Parrearra		8:14				8:29									8:44					
Mooloolaba		8:18				8:33									8:48					
Maroochydore		8:22				8:37									8:52					
Beerwah							8:08													
Landsborough							8:13													
Mooloolah							8:19													
Eudlo							8:26													
Palmwoods							8:32													
Woombye							8:36													
Nambour							8:41													
Yandina																				
Eumundi																				
Cooroy																				
Pomona																				
Cooran																				
Traveston																				
Gympie North																				

Salisbury	7:21	7:23	7:26	7:28	7:31	7:33	7:36	7:38	7:41	7:43	7:46	7:48	7:51	7:53	7:56	7:58	8:01
Yeerongpilly	7:25	7:27	7:30	7:32	7:35	7:37	7:40	7:42	7:45	7:47	7:50	7:52	7:55	7:57	8:00	8:02	8:05
Park Road	7:29	7:31	7:34	7:36	7:39	7:41	7:44	7:46	7:49	7:51	7:54	7:56	7:59	8:01	8:04	8:06	8:09
Wooloongabba	7:31	7:33	7:36	7:38	7:41	7:43	7:46	7:48	7:51	7:53	7:56	7:58	8:01	8:03	8:06	8:08	8:11
Albert Street	7:33	7:35	7:38	7:40	7:43	7:45	7:48	7:50	7:53	7:55	7:58	8:00	8:03	8:05	8:08	8:10	8:13
Roma Street	7:35	7:37	7:40	7:42	7:45	7:47	7:50	7:52	7:55	7:57	8:00	8:02	8:05	8:07	8:10	8:12	8:15
Exhibition		7:40		7:45	7:48	7:50		7:55		8:00	8:03	8:05		8:10		8:15	8:18
Wooloowin						7:56						8:11					
Brisbane International Airport						8:04						8:19					
Brisbane Domestic Airport						8:08						8:23					
Ashgrove	|		7:43				|		7:58				|		8:13		
Enoggera	|		7:46				|		8:01				|		8:16		
Chermside West	|		7:50				|		8:05				|		8:20		
Aspley	|		7:52				|		8:07				|		8:22		
Strathpine	7:49		7:57				8:04		8:12				8:19		8:27		
Petrie	7:53		8:01				8:08		8:16				8:23		8:31		
Dakabin	|		8:06				|		8:21				|		8:36		
Narangba	|		8:10				|		8:25				|		8:40		
Burpengary	|		8:14				|		8:29				|		8:44		
Morayfield	|		8:19				|		8:34				|		8:49		
Caboolture	8:09		8:22				8:24		8:37				8:39		8:52		
Elimbah	8:16						8:31						8:46				
Beerburrum	8:21						8:36						8:51				
Glass House Mountains	8:29						8:44						8:59				
Beerwah	8:34						8:49						9:04				
Pelican Waters	8:44						8:59						9:14				
Caloundra	8:48						9:03						9:18				
Aroona	8:51						9:06						9:21				
Erang Street	8:53						9:08						9:23				
Kawana	8:55						9:10						9:25				
Parrearra	8:59						9:14						9:29				
Mooloolaba	9:03						9:18						9:33				
Maroochydore	9:07						9:22						9:37				

Beerwah	8:38		9:08
Landsborough	8:43		9:13
Mooloolah	8:49		9:19
Eudlo	8:56		9:26
Palmwoods	9:02		9:32
Woombye	9:06		9:36
Nambour	9:11		9:41
Yandina	9:20		
Eumundi	9:27		
Cooroy	9:33		
Pomona	9:41		
Cooran	9:48		
Traveston	9:54		
Gympie North	10:12		

Salisbury	8:03	8:06	8:08	8:11	8:13	8:16	8:18	8:21	8:23	8:26	8:28	8:31	8:33	8:36	8:38	8:41	8:43
Yeerongpilly	8:07	8:10	8:12	8:15	8:17	8:20	8:22	8:25	8:27	8:30	8:32	8:35	8:37	8:40	8:42	8:45	8:47
Park Road	8:11	8:14	8:16	8:19	8:21	8:24	8:26	8:29	8:31	8:34	8:36	8:39	8:41	8:44	8:46	8:49	8:51
Wooloongabba	8:13	8:16	8:18	8:21	8:23	8:26	8:28	8:31	8:33	8:36	8:38	8:41	8:43	8:46	8:48	8:51	8:53
Albert Street	8:15	8:18	8:20	8:23	8:25	8:28	8:30	8:33	8:35	8:38	8:40	8:43	8:45	8:48	8:50	8:53	8:55
Roma Street	8:17	8:20	8:22	8:25	8:27	8:30	8:32	8:35	8:37	8:40	8:42	8:45	8:47	8:50	8:52	8:55	8:57
Exhibition	8:20		8:25		8:30	8:33	8:35		8:40		8:45	8:48	8:50		8:55		9:00
Wooloowin	8:26						8:41						8:56				
Brisbane International Airport	8:34						8:49						9:04				
Brisbane Domestic Airport	8:38						8:53						9:08				
Ashgrove		|		8:28				|		8:43				|		8:58	
Enoggera		|		8:31				|		8:46				|		9:01	
Chermside West		|		8:35				|		8:50				|		9:05	
Aspley		|		8:37				|		8:52				|		9:07	
Strathpine		8:34		8:42				8:49		8:57				9:04			9:12	
Petrie		8:38		8:46				8:53		9:01				9:08			9:16	
Dakabin		|		8:51				|		9:06				|		9:21	
Narangba		|		8:55				|		9:10				|		9:25	
Burpengary		|		8:59				|		9:14				|		9:29	
Morayfield		|		9:04				|		9:19				|		9:34	
Caboolture		8:54		9:07				9:09		9:22				9:24			9:37	
Elimbah		9:01						9:16						9:31				
Beerburrum		9:06						9:21						9:36				
Glass House Mountains		9:14						9:29						9:44				
Beerwah		9:19						9:34						9:49				
Pelican Waters		9:29						9:44						9:59				
Caloundra		9:33						9:48						10:03				
Aroona		9:36						9:51						10:06				
Erang Street		9:38						9:53						10:08				
Kawana		9:40						9:55						10:10				
Parrearra		9:44						9:59						10:14				
Mooloolaba		9:48						10:03						10:18				
Maroochydore		9:52						10:07						10:22				

Beerwah	9:38
Landsborough	9:43
Mooloolah	9:49
Eudlo	9:56
Palmwoods	10:02
Woombye	10:06
Nambour	10:11
Yandina	10:20
Eumundi	10:27
Cooroy	10:33
Pomona	10:41
Cooran	10:48
Traveston	10:54
Gympie North	11:12

Salisbury	8:46	8:48	8:51		8:55	8:58	9:03	9:06	9:10	9:13	9:18	9:21		9:33	9:36		9:48
Yeerongpilly	8:50	8:52	8:55		8:59	9:02	9:07	9:10	9:14	9:17	9:22	9:25	9:30	9:37	9:40	9:45	9:52
Park Road	8:54	8:56	8:59		9:03	9:06	9:11	9:14	9:18	9:21	9:26	9:29	9:34	9:41	9:44	9:49	9:56
Wooloongabba	8:56	8:58	9:01		9:05	9:08	9:13	9:16	9:20	9:23	9:28	9:31	9:36	9:43	9:46	9:51	9:58
Albert Street	8:58	9:00	9:03		9:07	9:10	9:15	9:18	9:22	9:25	9:30	9:33	9:38	9:45	9:48	9:53	10:00
Roma Street	9:00	9:02	9:05		9:09	9:12	9:17	9:20	9:24	9:27	9:32	9:35	9:40	9:47	9:50	9:55	10:02
Exhibition	9:03	9:05					9:20				9:35			9:50			10:05
Wooloowin		9:11					9:26				9:41			9:56			10:11
Brisbane International Airport		9:19					9:34				9:49			10:04			10:19
Brisbane Domestic Airport		9:23					9:38				9:53			10:08			10:23
Ashgrove			|		9:12			|	9:27			|	9:43		|	9:58	
Enoggera			|		9:15			|	9:30			|	9:46		|	10:01	
Chermside West			|		9:19			|	9:34			|	9:50		|	10:05	
Aspley			|		9:21			|	9:36			|	9:52		|	10:07	
Strathpine			9:19		9:26			9:34	9:41			9:49	9:57		10:04		10:12	
Petrie			9:23		9:30			9:38	9:45			9:53	10:01		10:08		10:16	
Dakabin			|		9:35			|	9:50			|	10:06		|	10:21	
Narangba			|		9:39			|	9:54			|	10:10		|	10:25	
Burpengary			|		9:43			|	9:58			|	10:14		|	10:29	
Morayfield			|		9:48			|	10:03			|	10:19		|	10:34	
Caboolture			9:39		9:51			9:54	10:06			10:09	10:22		10:24		10:37	
Elimbah			9:46					10:01				10:16			10:31			
Beerburrum			9:51					10:06				10:21			10:36			
Glass House Mountains			9:59					10:14				10:29			10:44			
Beerwah			10:04					10:19				10:34			10:49			
Pelican Waters			10:14					10:29				10:44			10:59			
Caloundra			10:18					10:33				10:48			11:03			
Aroona			10:21					10:36				10:51			11:06			
Erang Street			10:23					10:38				10:53			11:08			
Kawana			10:25					10:40				10:55			11:10			
Parrearra			10:29					10:44				10:59			11:14			
Mooloolaba			10:33					10:48				11:03			11:18			
Maroochydore			10:37					10:52				11:07			11:22			
Beerwah				10:08									10:38					
Landsborough				10:13									10:43					
Mooloolah				10:19									10:49					
Eudlo				10:26									10:56					
Palmwoods				10:32									11:02					
Woombye				10:36									11:06					
Nambour				10:41									11:11					
Yandina													11:20					
Eumundi													11:27					
Cooroy													11:33					
Pomona													11:41					
Cooran													11:48					
Traveston													11:54					
Gympie North													12:12					

Salisbury	9:51		10:03	10:06		10:18	10:21		10:33	10:36		10:48	10:51		11:03	11:06
Yeerongpilly	9:55	10:00	10:07	10:10	10:15	10:22	10:25	10:30	10:37	10:40	10:45	10:52	10:55	11:00	11:07	11:10
Park Road	9:59	10:04	10:11	10:14	10:19	10:26	10:29	10:34	10:41	10:44	10:49	10:56	10:59	11:04	11:11	11:14
Wooloongabba	10:01	10:06	10:13	10:16	10:21	10:28	10:31	10:36	10:43	10:46	10:51	10:58	11:01	11:06	11:13	11:16
Albert Street	10:03	10:08	10:15	10:18	10:23	10:30	10:33	10:38	10:45	10:48	10:53	11:00	11:03	11:08	11:15	11:18
Roma Street	10:05	10:10	10:17	10:20	10:25	10:32	10:35	10:40	10:47	10:50	10:55	11:02	11:05	11:10	11:17	11:20
Exhibition			10:20			10:35			10:50			11:05			11:20	
Wooloowin			10:26			10:41			10:56			11:11			11:26	
Brisbane International Airport			10:34			10:49			11:04			11:19			11:34	
Brisbane Domestic Airport			10:38			10:53			11:08			11:23			11:38	
Ashgrove	|	10:13		|	10:28		|	10:43		|	10:58		|	11:13		|
Enoggera	|	10:16		|	10:31		|	10:46		|	11:01		|	11:16		|
Chermside West	|	10:20		|	10:35		|	10:50		|	11:05		|	11:20		|
Aspley	|	10:22		|	10:37		|	10:52		|	11:07		|	11:22		|
Strathpine	10:19	10:27		10:34	10:42		10:49	10:57		11:04	11:12		11:19	11:27		11:34	
Petrie	10:23	10:31		10:38	10:46		10:53	11:01		11:08	11:16		11:23	11:31		11:38	
Dakabin	|	10:36		|	10:51		|	11:06		|	11:21		|	11:36		|
Narangba	|	10:40		|	10:55		|	11:10		|	11:25		|	11:40		|
Burpengary	|	10:44		|	10:59		|	11:14		|	11:29		|	11:44		|
Morayfield	|	10:49		|	11:04		|	11:19		|	11:34		|	11:49		|
Caboolture	10:39	10:52		10:54	11:07		11:09	11:22		11:24	11:37		11:39	11:52		11:54	
Elimbah	10:46			11:01			11:16			11:31			11:46			12:01	
Beerburrum	10:51			11:06			11:21			11:36			11:51			12:06	
Glass House Mountains	10:59			11:14			11:29			11:44			11:59			12:14	
Beerwah	11:04			11:19			11:34			11:49			12:04			12:19	
Pelican Waters	11:14			11:29			11:44			11:59			12:14			12:29	
Caloundra	11:18			11:33			11:48			12:03			12:18			12:33	
Aroona	11:21			11:36			11:51			12:06			12:21			12:36	
Erang Street	11:23			11:38			11:53			12:08			12:23			12:38	
Kawana	11:25			11:40			11:55			12:10			12:25			12:40	
Parrearra	11:29			11:44			11:59			12:14			12:29			12:44	
Mooloolaba	11:33			11:48			12:03			12:18			12:33			12:48	
Maroochydore	11:37			11:52			12:07			12:22			12:37			12:52	

Beerwah	11:08	11:38
Landsborough	11:13	11:43
Mooloolah	11:19	11:49
Eudlo	11:26	11:56
Palmwoods	11:32	12:02
Woombye	11:36	12:06
Nambour	11:41	12:11
Yandina		12:20
Eumundi		12:27
Cooroy		12:33
Pomona		12:41
Cooran		12:48
Traveston		12:54
Gympie North		13:12

Gympie North															
Traveston															
Cooran															
Pomona															
Cooroy															
Eumundi															
Yandina															
Nambour															
Woombye															
Palmwoods															
Eudlo															
Mooloolah															
Landsborough															
Beerwah															
Maroochydore						4:30		4:45		5:00		5:10			
Mooloolaba						4:34		4:49		5:04		5:14			
Parrearra						4:38		4:53		5:08		5:18			
Kawana						4:42		4:57		5:12		5:22			
Erang Street						4:44		4:59		5:14		5:24			
Aroona						4:46		5:01		5:16		5:26			
Caloundra						4:49		5:04		5:19		5:29			
Pelican Waters						4:53		5:08		5:23		5:33			
Beerwah						5:03		5:18		5:33		5:43			
Glass House Mountains						5:08		5:23		5:38		5:48			
Beerburrum						5:16		5:31		5:46		5:56			
Elimbah						5:21		5:36		5:51		6:01			
Caboolture						5:28	5:30	5:43	5:45	5:58	6:00	6:08	6:11		
Morayfield						|	5:33	|	5:48	|	6:03	|	6:14	
Burpengary						|	5:38	|	5:53	|	6:08	|	6:19	
Narangba						|	5:42	|	5:57	|	6:12	|	6:23	
Dakabin						|	5:46	|	6:01	|	6:16	|	6:27	
Petrie						5:44	5:51	5:59	6:06	6:14	6:21	6:24	6:32		
Strathpine						5:48	5:55	6:03	6:10	6:18	6:25	6:28	6:36		
Aspley						|	6:00	|	6:15	|	6:30	|	6:41	
Chermside West						|	6:02	|	6:17	|	6:32	|	6:43	
Enoggera						|	6:06	|	6:21	|	6:36	|	6:47	
Ashgrove						|	6:09	|	6:24	|	6:39	|	6:50	
Brisbane Domestic Airport							5:45		6:00		6:15		6:30		
Brisbane International Airport							5:49		6:04		6:19		6:34		
Wooloowin							5:57		6:12		6:27		6:42		
Exhibition	4:59	5:14	5:29	5:44			6:03		6:18		6:33		6:48		
Roma Street	5:02	5:17	5:32	5:47	6:02	6:06	6:12	6:17	6:21	6:27	6:32	6:36	6:42	6:45	6:51	6:53
Albert Street	5:04	5:19	5:34	5:49	6:04	6:08	6:14	6:19	6:23	6:29	6:34	6:38	6:44	6:47	6:53	6:55
Wooloongabba	5:06	5:21	5:36	5:51	6:06	6:10	6:16	6:21	6:25	6:31	6:36	6:40	6:46	6:49	6:55	6:57
Park Road	5:08	5:23	5:38	5:53	6:08	6:12	6:18	6:23	6:27	6:33	6:38	6:42	6:48	6:51	6:57	6:59
Yeerongpilly	5:12	5:27	5:42	5:57	6:12	6:16	6:22	6:27	6:31	6:37	6:42	6:46	6:52	6:55	7:01	7:03
Salisbury	5:16	5:31	5:46	6:01	6:16	6:20		6:31	6:35		6:46	6:50		6:59	7:05	

Gympie North		4:18												4:48				
Traveston		4:36												5:06				
Cooran		4:42												5:12				
Pomona		4:49												5:19				
Cooroy		4:57												5:27				
Eumundi		5:03												5:33				
Yandina		5:10												5:40				
Nambour		5:19						5:34						5:49				
Woombye		5:24						5:39						5:54				
Palmwoods		5:28						5:43						5:58				
Eudlo		5:34						5:49						6:04				
Mooloolah		5:41						5:56						6:11				
Landsborough		5:47						6:02						6:17				
Beerwah		5:52						6:07						6:22				
Maroochydore	5:15		5:26		5:33				5:41		5:48			5:56			6:03	
Mooloolaba	5:19		5:30		5:37				5:45		5:52			6:00			6:07	
Parrearra	5:23		5:34		5:41				5:49		5:56			6:04			6:11	
Kawana	5:27		5:38		5:45				5:53		6:00			6:08			6:15	
Erang Street	5:29		5:40		5:47				5:55		6:02			6:10			6:17	
Aroona	5:31		5:42		5:49				5:57		6:04			6:12			6:19	
Caloundra	5:34		5:45		5:52				6:00		6:07			6:15			6:22	
Pelican Waters	5:38		5:49		5:56				6:04		6:11			6:19			6:26	
Beerwah	5:48	5:52	5:59		6:06			6:07	6:14		6:21		6:22	6:29			6:36	
Glass House Mountains	5:53	5:57	|		|			6:12	|		|		6:27	|		|	
Beerburrum	6:01	6:05	|		|			6:20	|		|		6:35	|		|	
Elimbah	6:06	6:10	|		|			6:25	|		|		6:40	|		|	
Caboolture	6:13	6:17	6:19	6:22		6:26	6:29	6:32	6:34	6:37		6:41	6:44	6:47	6:49	6:52		6:56
Morayfield	|	|	|	6:25		|	6:32	|	|	6:40		|	6:47	|	|	6:55		|
Burpengary	|	|	|	6:30		|	6:37	|	|	6:45		|	6:52	|	|	7:00		|
Narangba	|	|	|	6:34		|	6:41	|	|	6:49		|	6:56	|	|	7:04		|
Dakabin	|	|	|	6:38		|	6:45	|	|	6:53		|	7:00	|	|	7:08		|
Petrie	6:34	6:38	6:40	6:43		6:47	6:50	6:53	6:55	6:58		7:02	7:05	7:08	7:10	7:13		7:17
Strathpine	6:38	6:42	6:44	6:47		6:51	6:54	6:57	6:59	7:02		7:06	7:09	7:12	7:14	7:17		7:21
Aspley	|	|	|	6:52		|	6:59	|	|	7:07		|	7:14	|	|	7:22		|
Chermside West	|	|	|	6:54		|	7:01	|	|	7:09		|	7:16	|	|	7:24		|
Enoggera	|	|	|	6:58		|	7:05	|	|	7:13		|	7:20	|	|	7:28		|
Ashgrove	|	|	|	7:01		|	7:08	|	|	7:16		|	7:23	|	|	7:31		|
Brisbane Domestic Airport					6:45						7:00						7:15	
Brisbane International Airport					6:49						7:04						7:19	
Wooloowin					6:57						7:12						7:27	
Exhibition					7:03						7:18						7:33	
Roma Street	6:55	6:59	7:01	7:04	7:06	7:08	7:11	7:14	7:16	7:19	7:21	7:23	7:26	7:29	7:31	7:34	7:36	7:38
Albert Street	6:57	7:01	7:03	7:06	7:08	7:10	7:13	7:16	7:18	7:21	7:23	7:25	7:28	7:31	7:33	7:36	7:38	7:40
Wooloongabba	6:59	7:03	7:05	7:08	7:10	7:12	7:15	7:18	7:20	7:23	7:25	7:27	7:30	7:33	7:35	7:38	7:40	7:42
Park Road	7:01	7:05	7:07	7:10	7:12	7:14	7:17	7:20	7:22	7:25	7:27	7:29	7:32	7:35	7:37	7:40	7:42	7:44
Yeerongpilly	7:05	7:09	7:11	7:14	7:16	7:18	7:21	7:24	7:26	7:29	7:31	7:33	7:36	7:39	7:41	7:44	7:46	7:48
Salisbury			7:15		7:20				7:30		7:35				7:45		7:50	

Gympie North								5:18											
Traveston								5:36											
Cooran								5:42											
Pomona								5:49											
Cooroy								5:57											
Eumundi								6:03											
Yandina								6:10											
Nambour	6:04							6:19							6:34				
Woombye	6:09							6:24							6:39				
Palmwoods	6:13							6:28							6:43				
Eudlo	6:19							6:34							6:49				
Mooloolah	6:26							6:41							6:56				
Landsborough	6:32							6:47							7:02				
Beerwah	6:37							6:52							7:07				
Maroochydore		6:11			6:18				6:26		6:33			6:41			6:48		
Mooloolaba		6:15			6:22				6:30		6:37			6:45			6:52		
Parrearra		6:19			6:26				6:34		6:41			6:49			6:56		
Kawana		6:23			6:30				6:38		6:45			6:53			7:00		
Erang Street		6:25			6:32				6:40		6:47			6:55			7:02		
Aroona		6:27			6:34				6:42		6:49			6:57			7:04		
Caloundra		6:30			6:37				6:45		6:52			7:00			7:07		
Pelican Waters		6:34			6:41				6:49		6:56			7:04			7:11		
Beerwah	6:37	6:44			6:51			6:52	6:59		7:06			7:07	7:14		7:21		
Glass House Mountains	6:42	|			|		6:57	|		|			7:12	|		|		
Beerburrum		6:50	|		|			7:05	|		|			7:20	|		|		
Elimbah		6:55	|		|			7:10	|		|			7:25	|		|		
Caboolture	6:59	7:02	7:04	7:07		7:11	7:14	7:17	7:19	7:22		7:26	7:29	7:32	7:34	7:37		7:41	
Morayfield	7:02	|	|	7:10		|	7:17	|	|	7:25		|	7:32	|	|	7:40		|	
Burpengary	7:07	|	|	7:15		|	7:22	|	|	7:30		|	7:37	|	|	7:45		|	
Narangba	7:11	|	|	7:19		|	7:26	|	|	7:34		|	7:41	|	|	7:49		|	
Dakabin	7:15	|	|	7:23		|	7:30	|	|	7:38		|	7:45	|	|	7:53		|	
Petrie	7:20	7:23	7:25	7:28		7:32	7:35	7:38	7:40	7:43		7:47	7:50	7:53	7:55	7:58		8:02	
Strathpine	7:24	7:27	7:29	7:32		7:36	7:39	7:42	7:44	7:47		7:51	7:54	7:57	7:59	8:02		8:06	
Aspley	7:29	|	|	7:37		|	7:44	|	|	7:52		|	7:59	|	|	8:07		|	
Chermside West	7:31	|	|	7:39		|	7:46	|	|	7:54		|	8:01	|	|	8:09		|	
Enoggera	7:35	|	|	7:43		|	7:50	|	|	7:58		|	8:05	|	|	8:13		|	
Ashgrove	7:38	|	|	7:46		|	7:53	|	|	8:01		|	8:08	|	|	8:16		|	
Brisbane Domestic Airport					7:30						7:45						8:00		
Brisbane International Airport					7:34						7:49						8:04		
Wooloowin					7:42						7:57						8:12		
Exhibition					7:48						8:03						8:18		
Roma Street	7:41	7:44	7:46	7:49	7:51	7:53	7:56	7:59	8:01	8:04	8:06	8:08	8:11	8:14	8:16	8:19	8:21	8:23	
Albert Street	7:43	7:46	7:48	7:51	7:53	7:55	7:58	8:01	8:03	8:06	8:08	8:10	8:13	8:16	8:18	8:21	8:23	8:25	
Wooloongabba	7:45	7:48	7:50	7:53	7:55	7:57	8:00	8:03	8:05	8:08	8:10	8:12	8:15	8:18	8:20	8:23	8:25	8:27	
Park Road	7:47	7:50	7:52	7:55	7:57	7:59	8:02	8:05	8:07	8:10	8:12	8:14	8:17	8:20	8:22	8:25	8:27	8:29	
Yeerongpilly	7:51	7:54	7:56	7:59	8:01	8:03	8:06	8:09	8:11	8:14	8:16	8:18	8:21	8:24	8:26	8:29	8:31	8:33	
Salisbury			8:00		8:05				8:15		8:20				8:30		8:35		

Gympie North	5:48														6:18				
Traveston	6:06														6:36				
Cooran	6:12														6:42				
Pomona	6:19														6:49				
Cooroy	6:27														6:57				
Eumundi	6:33														7:03				
Yandina	6:40														7:10				
Nambour	6:49							7:04							7:19				
Woombye	6:54							7:09							7:24				
Palmwoods	6:58							7:13							7:28				
Eudlo	7:04							7:19							7:34				
Mooloolah	7:11							7:26							7:41				
Landsborough	7:17							7:32							7:47				
Beerwah	7:22							7:37							7:52				
Maroochydore		6:56			7:03				7:11			7:18				7:28			7:45
Mooloolaba		7:00			7:07				7:15			7:22				7:32			7:49
Parrearra		7:04			7:11				7:19			7:26				7:36			7:53
Kawana		7:08			7:15				7:23			7:30				7:40			7:57
Erang Street		7:10			7:17				7:25			7:32				7:42			7:59
Aroona		7:12			7:19				7:27			7:34				7:44			8:01
Caloundra		7:15			7:22				7:30			7:37				7:47			8:04
Pelican Waters		7:19			7:26				7:34			7:41				7:51			8:08
Beerwah	7:22	7:29			7:36			7:37	7:44			7:51			7:52	8:01			8:18
Glass House Mountains	7:27	|			|		7:42	|			|			7:57	|			8:23
Beerburrum		7:35	|			|		7:50	|			|			8:05	|			8:31
Elimbah		7:40	|			|		7:55	|			|			8:10	|			8:36
Caboolture	7:44	7:47	7:49	7:52		7:56	7:59	8:02	8:04	8:07		8:11	8:14	8:17	8:21		8:30	8:43	
Morayfield	7:47	|	|	7:55		|	8:02	|	|	8:10		|	8:17	|	|		8:33	|	
Burpengary	7:52	|	|	8:00		|	8:07	|	|	8:15		|	8:22	|	|		8:38	|	
Narangba	7:56	|	|	8:04		|	8:11	|	|	8:19		|	8:26	|	|		8:42	|	
Dakabin	8:00	|	|	8:08		|	8:15	|	|	8:23		|	8:30	|	|		8:46	|	
Petrie	8:05	8:08	8:10	8:13		8:17	8:20	8:23	8:25	8:28		8:32	8:35	8:38	8:42		8:51	8:59	
Strathpine	8:09	8:12	8:14	8:17		8:21	8:24	8:27	8:29	8:32		8:36	8:39	8:42	8:46		8:55	9:03	
Aspley	8:14	|	|	8:22		|	8:29	|	|	8:37		|	8:44	|	|		9:00	|	
Chermside West	8:16	|	|	8:24		|	8:31	|	|	8:39		|	8:46	|	|		9:02	|	
Enoggera	8:20	|	|	8:28		|	8:35	|	|	8:43		|	8:50	|	|		9:06	|	
Ashgrove	8:23	|	|	8:31		|	8:38	|	|	8:46		|	8:53	|	|		9:09	|	
Brisbane Domestic Airport					8:15						8:30						8:45		
Brisbane International Airport					8:19						8:34						8:49		
Wooloowin					8:27						8:42						8:57		
Exhibition					8:33						8:48						9:03		
Roma Street	8:26	8:29	8:31	8:34	8:36	8:38	8:41	8:44	8:46	8:49	8:51	8:53	8:56	8:59	9:03	9:06	9:12	9:17	
Albert Street	8:28	8:31	8:33	8:36	8:38	8:40	8:43	8:46	8:48	8:51	8:53	8:55	8:58	9:01	9:05	9:08	9:14	9:19	
Wooloongabba	8:30	8:33	8:35	8:38	8:40	8:42	8:45	8:48	8:50	8:53	8:55	8:57	9:00	9:03	9:07	9:10	9:16	9:21	
Park Road	8:32	8:35	8:37	8:40	8:42	8:44	8:47	8:50	8:52	8:55	8:57	8:59	9:02	9:05	9:09	9:12	9:18	9:23	
Yeerongpilly	8:36	8:39	8:41	8:44	8:46	8:48	8:51	8:54	8:56	8:59	9:01	9:03	9:06	9:09	9:13	9:16	9:22	9:27	
Salisbury			8:45		8:50				9:00		9:05				9:17	9:20		9:31	

Gympie North										7:25								
Traveston										7:43								
Cooran										7:49								
Pomona										7:56								
Cooroy										8:04								
Eumundi										8:10								
Yandina										8:17								
Nambour			7:56							8:26						8:56		
Woombye			8:01							8:31						9:01		
Palmwoods			8:05							8:35						9:05		
Eudlo			8:11							8:41						9:11		
Mooloolah			8:18							8:48						9:18		
Landsborough			8:24							8:54						9:24		
Beerwah			8:29							8:59						9:29		
Maroochydore				8:00			8:15				8:30			8:45				9:00
Mooloolaba				8:04			8:19				8:34			8:49				9:04
Parrearra				8:08			8:23				8:38			8:53				9:08
Kawana				8:12			8:27				8:42			8:57				9:12
Erang Street				8:14			8:29				8:44			8:59				9:14
Aroona				8:16			8:31				8:46			9:01				9:16
Caloundra				8:19			8:34				8:49			9:04				9:19
Pelican Waters				8:23			8:38				8:53			9:08				9:23
Beerwah				8:33			8:48				9:03			9:18				9:33
Glass House Mountains				8:38			8:53				9:08			9:23				9:38
Beerburrum				8:46			9:01				9:16			9:31				9:46
Elimbah				8:51			9:06				9:21			9:36				9:51
Caboolture		8:45		8:58		9:00	9:13		9:15		9:28		9:30	9:43			9:45	9:58
Morayfield		8:48		|		9:03	|		9:18		|		9:33	|			9:48	|
Burpengary		8:53		|		9:08	|		9:23		|		9:38	|			9:53	|
Narangba		8:57		|		9:12	|		9:27		|		9:42	|			9:57	|
Dakabin		9:01		|		9:16	|		9:31		|		9:46	|			10:01	|
Petrie		9:06		9:14		9:21	9:29		9:36		9:44		9:51	9:59			10:06	10:14
Strathpine		9:10		9:18		9:25	9:33		9:40		9:48		9:55	10:03			10:10	10:18
Aspley		9:15		|		9:30	|		9:45		|		10:00	|			10:15	|
Chermside West		9:17		|		9:32	|		9:47		|		10:02	|			10:17	|
Enoggera		9:21		|		9:36	|		9:51		|		10:06	|			10:21	|
Ashgrove		9:24		|		9:39	|		9:54		|		10:09	|			10:24	|
Brisbane Domestic Airport	9:00				9:15			9:30				9:45			10:00			
Brisbane International Airport	9:04				9:19			9:34				9:49			10:04			
Wooloowin	9:12				9:27			9:42				9:57			10:12			
Exhibition	9:18				9:33			9:48				10:03			10:18			
Roma Street	9:21	9:27		9:32	9:36	9:42	9:47	9:51	9:57		10:02	10:06	10:12	10:17	10:21		10:27	10:32
Albert Street	9:23	9:29		9:34	9:38	9:44	9:49	9:53	9:59		10:04	10:08	10:14	10:19	10:23		10:29	10:34
Wooloongabba	9:25	9:31		9:36	9:40	9:46	9:51	9:55	10:01		10:06	10:10	10:16	10:21	10:25		10:31	10:36
Park Road	9:27	9:33		9:38	9:42	9:48	9:53	9:57	10:03		10:08	10:12	10:18	10:23	10:27		10:33	10:38
Yeerongpilly	9:31	9:37		9:42	9:46	9:52	9:57	10:01	10:07		10:12	10:16	10:22	10:27	10:31		10:37	10:42
Salisbury	9:35			9:46	9:50		10:01	10:05			10:16	10:20		10:31	10:35			10:46

Gympie North					8:25													
Traveston					8:43													
Cooran					8:49													
Pomona					8:56													
Cooroy					9:04													
Eumundi					9:10													
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Palmwoods					9:35													
Eudlo					9:41													
Mooloolah					9:48													
Landsborough					9:54													
Beerwah					9:59													
Maroochydore			9:15				9:30			9:45			10:00			10:15		
Mooloolaba			9:19				9:34			9:49			10:04			10:19		
Parrearra			9:23				9:38			9:53			10:08			10:23		
Kawana			9:27				9:42			9:57			10:12			10:27		
Erang Street			9:29				9:44			9:59			10:14			10:29		
Aroona			9:31				9:46			10:01			10:16			10:31		
Caloundra			9:34				9:49			10:04			10:19			10:34		
Pelican Waters			9:38				9:53			10:08			10:23			10:38		
Beerwah			9:48				10:03			10:18			10:33			10:48		
Glass House Mountains			9:53				10:08			10:23			10:38			10:53		
Beerburrum			10:01				10:16			10:31			10:46			11:01		
Elimbah			10:06				10:21			10:36			10:51			11:06		
Caboolture		10:00	10:13			10:15	10:28		10:30	10:43		10:45	10:58		11:00	11:13		11:15
Morayfield		10:03	|			10:18	|		10:33	|		10:48	|		11:03	|		11:18
Burpengary		10:08	|			10:23	|		10:38	|		10:53	|		11:08	|		11:23
Narangba		10:12	|			10:27	|		10:42	|		10:57	|		11:12	|		11:27
Dakabin		10:16	|			10:31	|		10:46	|		11:01	|		11:16	|		11:31
Petrie		10:21	10:29			10:36	10:44		10:51	10:59		11:06	11:14		11:21	11:29		11:36
Strathpine		10:25	10:33			10:40	10:48		10:55	11:03		11:10	11:18		11:25	11:33		11:40
Aspley		10:30	|			10:45	|		11:00	|		11:15	|		11:30	|		11:45
Chermside West		10:32	|			10:47	|		11:02	|		11:17	|		11:32	|		11:47
Enoggera		10:36	|			10:51	|		11:06	|		11:21	|		11:36	|		11:51
Ashgrove		10:39	|			10:54	|		11:09	|		11:24	|		11:39	|		11:54
Brisbane Domestic Airport	10:15			10:30				10:45			11:00			11:15			11:30	
Brisbane International Airport	10:19			10:34				10:49			11:04			11:19			11:34	
Wooloowin	10:27			10:42				10:57			11:12			11:27			11:42	
Exhibition	10:33			10:48				11:03			11:18			11:33			11:48	
Roma Street	10:36	10:42	10:47	10:51		10:57	11:02	11:06	11:12	11:17	11:21	11:27	11:32	11:36	11:42	11:47	11:51	11:57
Albert Street	10:38	10:44	10:49	10:53		10:59	11:04	11:08	11:14	11:19	11:23	11:29	11:34	11:38	11:44	11:49	11:53	11:59
Wooloongabba	10:40	10:46	10:51	10:55		11:01	11:06	11:10	11:16	11:21	11:25	11:31	11:36	11:40	11:46	11:51	11:55	12:01
Park Road	10:42	10:48	10:53	10:57		11:03	11:08	11:12	11:18	11:23	11:27	11:33	11:38	11:42	11:48	11:53	11:57	12:03
Yeerongpilly	10:46	10:52	10:57	11:01		11:07	11:12	11:16	11:22	11:27	11:31	11:37	11:42	11:46	11:52	11:57	12:01	12:07
Salisbury	10:50		11:01	11:05			11:16	11:20		11:31	11:35		11:46	11:50		12:01	12:05	

Roma Street			5:02	5:17	5:32	5:47	6:02	6:06	6:12	6:17	6:21	6:27	6:32	6:36	6:42	6:45	6:51	6:53
Albert Street			5:04	5:19	5:34	5:49	6:04	6:08	6:14	6:19	6:23	6:29	6:34	6:38	6:44	6:47	6:53	6:55
Wooloongabba			5:06	5:21	5:36	5:51	6:06	6:10	6:16	6:21	6:25	6:31	6:36	6:40	6:46	6:49	6:55	6:57
Park Road			5:08	5:23	5:38	5:53	6:08	6:12	6:18	6:23	6:27	6:33	6:38	6:42	6:48	6:51	6:57	6:59
Yeerongpilly			5:12	5:27	5:42	5:57	6:12	6:16	6:22	6:27	6:31	6:37	6:42	6:46	6:52	6:55	7:01	7:03
Salisbury			5:16	5:31	5:46	6:01	6:16	6:20		6:31	6:35		6:46	6:50		6:59	7:05	
Coopers Plains			|	|	|	|	|	6:23		|	6:38		|	6:53		|	7:08	
Banoon			|	|	|	|	|	6:25		|	6:40		|	6:55		|	7:10	
Sunnybank			|	|	|	|	|	6:27		|	6:42		|	6:57		|	7:12	
Altandi			|	|	|	|	|	6:30		|	6:45		|	7:00		|	7:15	
Runcorn			|	|	|	|	|	6:32		|	6:47		|	7:02		|	7:17	
Fruitgrove			|	|	|	|	|	6:33		|	6:48		|	7:03		|	7:18	
Kuraby			|	|	|	|	|	6:35		|	6:50		|	7:05		|	7:20	
Trinder Park			|	|	|	|	|	6:40		|	6:55		|	7:10		|	7:25	
Woodridge			|	|	|	|	|	6:42		|	6:57		|	7:12		|	7:27	
Kingston			|	|	|	|	|	6:46		|	7:01		|	7:16		|	7:31	
Loganlea			5:36	5:51	6:06	6:21	6:36	6:48		6:51	7:03		7:06	7:18		7:19	7:33	
Bethania			|	|	|	|	|	6:52		|	7:07		|	7:22		|	7:37	
Edens Landing			|	|	|	|	|	6:54		|	7:09		|	7:24		|	7:39	
Holmview			|	|	|	|	|	6:57		|	7:12		|	7:27		|	7:42	
Beenleigh	5:14	5:29	5:44	5:59	6:14	6:29	6:44	7:00	7:06	6:59	7:15	7:21	7:14	7:30	7:36	7:27	7:45	
Ormeau	5:21	5:36	5:51	6:06	6:21	6:36	6:51			7:06			7:21			7:34		
Pimpama	5:24	5:39	5:54	6:09	6:24	6:39	6:54			7:09			7:24			7:37		
Coomera	5:28	5:43	5:58	6:13	6:28	6:43	6:58			7:13			7:28			7:41		
Helensvale North	5:32	5:47	6:02	6:17	6:32	6:47	7:02			7:17			7:32			7:45		
Helensvale	5:36	5:51	6:06	6:21	6:36	6:51	7:06			7:21			7:36			7:49		
Nerang	5:41	5:56	6:11	6:26	6:41	6:56	7:11			7:26			7:41			7:54		
Merrimac	5:47	6:02	6:17	6:32	6:47	7:02	7:17			7:32			7:47			8:00		
Robina	5:50	6:05	6:20	6:35	6:50	7:05	7:20			7:35			7:50			8:03		
Varsity Lakes	5:54	6:09	6:24	6:39	6:54	7:09	7:24			7:39			7:54			8:07		
Tallebudgera	5:58	6:13	6:28	6:43	6:58	7:13	7:28			7:43			7:58			8:11		
Elanora	6:02	6:17	6:32	6:47	7:02	7:17	7:32			7:47			8:02			8:15		
Tugun	6:06	6:21	6:36	6:51	7:06	7:21	7:36			7:51			8:06			8:19		
Coolangatta Airport	6:10	6:25	6:40	6:55	7:10	7:25	7:40			7:55			8:10			8:23		

Roma Street	6:55	6:59	7:01	7:04	7:06	7:08	7:11	7:14	7:16	7:19	7:21	7:23	7:26	7:29	7:31	7:34	7:36	7:38
Albert Street	6:57	7:01	7:03	7:06	7:08	7:10	7:13	7:16	7:18	7:21	7:23	7:25	7:28	7:31	7:33	7:36	7:38	7:40
Wooloongabba	6:59	7:03	7:05	7:08	7:10	7:12	7:15	7:18	7:20	7:23	7:25	7:27	7:30	7:33	7:35	7:38	7:40	7:42
Park Road	7:01	7:05	7:07	7:10	7:12	7:14	7:17	7:20	7:22	7:25	7:27	7:29	7:32	7:35	7:37	7:40	7:42	7:44
Yeerongpilly	7:05	7:09	7:11	7:14	7:16	7:18	7:21	7:24	7:26	7:29	7:31	7:33	7:36	7:39	7:41	7:44	7:46	7:48
Salisbury			7:15		7:20				7:30		7:35				7:45		7:50	
Coopers Plains			|		7:23				|		7:38				|		7:53	
Banoon			|		7:25				|		7:40				|		7:55	
Sunnybank			|		7:27				|		7:42				|		7:57	
Altandi			|		7:30				|		7:45				|		8:00	
Runcorn			|		7:32				|		7:47				|		8:02	
Fruitgrove			|		7:33				|		7:48				|		8:03	
Kuraby			|		7:35				|		7:50				|		8:05	
Trinder Park			|		7:40				|		7:55				|		8:10	
Woodridge			|		7:42				|		7:57				|		8:12	
Kingston			|		7:46				|		8:01				|		8:16	
Loganlea			7:35		7:48				7:50		8:03				8:05		8:18	
Bethania			|		7:52				|		8:07				|		8:22	
Edens Landing			|		7:54				|		8:09				|		8:24	
Holmview			|		7:57				|		8:12				|		8:27	
Beenleigh	7:49	7:53	7:43		8:00			8:08	7:58		8:15			8:23	8:13		8:30	
Ormeau			7:50						8:05						8:20			
Pimpama			7:53						8:08						8:23			
Coomera			7:57						8:12						8:27			
Helensvale North			8:01						8:16						8:31			
Helensvale			8:05						8:20						8:35			
Nerang			8:10						8:25						8:40			
Merrimac			8:16						8:31						8:46			
Robina			8:19						8:34						8:49			
Varsity Lakes			8:23						8:38						8:53			
Tallebudgera			8:27						8:42						8:57			
Elanora			8:31						8:46						9:01			
Tugun			8:35						8:50						9:05			
Coolangatta Airport			8:39						8:54						9:09			

Roma Street	7:41	7:44	7:46	7:49	7:51	7:53	7:56	7:59	8:01	8:04	8:06	8:08	8:11	8:14	8:16	8:19	8:21	8:23
Albert Street	7:43	7:46	7:48	7:51	7:53	7:55	7:58	8:01	8:03	8:06	8:08	8:10	8:13	8:16	8:18	8:21	8:23	8:25
Wooloongabba	7:45	7:48	7:50	7:53	7:55	7:57	8:00	8:03	8:05	8:08	8:10	8:12	8:15	8:18	8:20	8:23	8:25	8:27
Park Road	7:47	7:50	7:52	7:55	7:57	7:59	8:02	8:05	8:07	8:10	8:12	8:14	8:17	8:20	8:22	8:25	8:27	8:29
Yeerongpilly	7:51	7:54	7:56	7:59	8:01	8:03	8:06	8:09	8:11	8:14	8:16	8:18	8:21	8:24	8:26	8:29	8:31	8:33
Salisbury			8:00		8:05				8:15		8:20				8:30		8:35	
Coopers Plains			|		8:08				|		8:23				|		8:38	
Banoon			|		8:10				|		8:25				|		8:40	
Sunnybank			|		8:12				|		8:27				|		8:42	
Altandi			|		8:15				|		8:30				|		8:45	
Runcorn			|		8:17				|		8:32				|		8:47	
Fruitgrove			|		8:18				|		8:33				|		8:48	
Kuraby			|		8:20				|		8:35				|		8:50	
Trinder Park			|		8:25				|		8:40				|		8:55	
Woodridge			|		8:27				|		8:42				|		8:57	
Kingston			|		8:31				|		8:46				|		9:01	
Loganlea			8:20		8:33				8:35		8:48				8:50		9:03	
Bethania			|		8:37				|		8:52				|		9:07	
Edens Landing			|		8:39				|		8:54				|		9:09	
Holmview			|		8:42				|		8:57				|		9:12	
Beenleigh			8:28		8:45				8:43		9:00				8:58		9:15	
Ormeau			8:35						8:50						9:05			
Pimpama			8:38						8:53						9:08			
Coomera			8:42						8:57						9:12			
Helensvale North			8:46						9:01						9:16			
Helensvale			8:50						9:05						9:20			
Nerang			8:55						9:10						9:25			
Merrimac			9:01						9:16						9:31			
Robina			9:04						9:19						9:34			
Varsity Lakes			9:08						9:23						9:38			
Tallebudgera			9:12						9:27						9:42			
Elanora			9:16						9:31						9:46			
Tugun			9:20						9:35						9:50			
Coolangatta Airport			9:24						9:39						9:54			

Roma Street	8:26	8:29	8:31	8:34	8:36	8:38	8:41	8:44	8:46	8:49	8:51	8:53	8:56	8:59	9:03	9:06	9:12	9:17
Albert Street	8:28	8:31	8:33	8:36	8:38	8:40	8:43	8:46	8:48	8:51	8:53	8:55	8:58	9:01	9:05	9:08	9:14	9:19
Wooloongabba	8:30	8:33	8:35	8:38	8:40	8:42	8:45	8:48	8:50	8:53	8:55	8:57	9:00	9:03	9:07	9:10	9:16	9:21
Park Road	8:32	8:35	8:37	8:40	8:42	8:44	8:47	8:50	8:52	8:55	8:57	8:59	9:02	9:05	9:09	9:12	9:18	9:23
Yeerongpilly	8:36	8:39	8:41	8:44	8:46	8:48	8:51	8:54	8:56	8:59	9:01	9:03	9:06	9:09	9:13	9:16	9:22	9:27
Salisbury			8:45		8:50				9:00		9:05				9:17	9:20		9:31
Coopers Plains			|		8:53				|		9:08				|	9:23		|
Banoon			|		8:55				|		9:10				|	9:25		|
Sunnybank			|		8:57				|		9:12				|	9:27		|
Altandi			|		9:00				|		9:15				|	9:30		|
Runcorn			|		9:02				|		9:17				|	9:32		|
Fruitgrove			|		9:03				|		9:18				|	9:33		|
Kuraby			|		9:05				|		9:20				|	9:35		|
Trinder Park			|		9:10				|		9:25				|	9:40		|
Woodridge			|		9:12				|		9:27				|	9:42		|
Kingston			|		9:16				|		9:31				|	9:46		|
Loganlea			9:05		9:18				9:20		9:33				9:37	9:48		9:51
Bethania			|		9:22				|		9:37				|	9:52		|
Edens Landing			|		9:24				|		9:39				|	9:54		|
Holmview			|		9:27				|		9:42				|	9:57		|
Beenleigh			9:13		9:30				9:28		9:45				9:45	10:00		9:59
Ormeau			9:20						9:35						9:52			10:06
Pimpama			9:23						9:38						9:55			10:09
Coomera			9:27						9:42						9:59			10:13

Helensvale North	9:31	9:46	10:03	10:17
Helensvale	9:35	9:50	10:07	10:21
Nerang	9:40	9:55	10:12	10:26
Merrimac	9:46	10:01	10:18	10:32
Robina	9:49	10:04	10:21	10:35
Varsity Lakes	9:53	10:08	10:25	10:39
Tallebudgera	9:57	10:12	10:29	10:43
Elanora	10:01	10:16	10:33	10:47
Tugun	10:05	10:20	10:37	10:51
Coolangatta Airport	10:09	10:24	10:41	10:55

Roma Street	9:21	9:27	9:32	9:36	9:42	9:47	9:51	9:57	10:02	10:06	10:12	10:17	10:21	10:27	10:32
Albert Street	9:23	9:29	9:34	9:38	9:44	9:49	9:53	9:59	10:04	10:08	10:14	10:19	10:23	10:29	10:34
Wooloongabba	9:25	9:31	9:36	9:40	9:46	9:51	9:55	10:01	10:06	10:10	10:16	10:21	10:25	10:31	10:36
Park Road	9:27	9:33	9:38	9:42	9:48	9:53	9:57	10:03	10:08	10:12	10:18	10:23	10:27	10:33	10:38
Yeerongpilly	9:31	9:37	9:42	9:46	9:52	9:57	10:01	10:07	10:12	10:16	10:22	10:27	10:31	10:37	10:42
Salisbury	9:35		9:46	9:50		10:01	10:05		10:16	10:20		10:31	10:35		10:46
Coopers Plains	9:38		|	9:53		|	10:08		|	10:23		|	10:38		|
Banoon	9:40		|	9:55		|	10:10		|	10:25		|	10:40		|
Sunnybank	9:42		|	9:57		|	10:12		|	10:27		|	10:42		|
Altandi	9:45		|	10:00		|	10:15		|	10:30		|	10:45		|
Runcorn	9:47		|	10:02		|	10:17		|	10:32		|	10:47		|
Fruitgrove	9:48		|	10:03		|	10:18		|	10:33		|	10:48		|
Kuraby	9:50		|	10:05		|	10:20		|	10:35		|	10:50		|
Trinder Park	9:55		|	10:10		|	10:25		|	10:40		|	10:55		|
Woodridge	9:57		|	10:12		|	10:27		|	10:42		|	10:57		|
Kingston	10:01		|	10:16		|	10:31		|	10:46		|	11:01		|
Loganlea	10:03		10:06	10:18		10:21	10:33		10:36	10:48		10:51	11:03		11:06
Bethania	10:07		|	10:22		|	10:37		|	10:52		|	11:07		|
Edens Landing	10:09		|	10:24		|	10:39		|	10:54		|	11:09		|
Holmview	10:12		|	10:27		|	10:42		|	10:57		|	11:12		|
Beenleigh	10:15		10:14	10:30		10:29	10:45		10:44	11:00		10:59	11:15		11:14
Ormeau			10:21			10:36			10:51			11:06			11:21
Pimpama			10:24			10:39			10:54			11:09			11:24
Coomera			10:28			10:43			10:58			11:13			11:28
Helensvale North			10:32			10:47			11:02			11:17			11:32
Helensvale			10:36			10:51			11:06			11:21			11:36
Nerang			10:41			10:56			11:11			11:26			11:41
Merrimac			10:47			11:02			11:17			11:32			11:47
Robina			10:50			11:05			11:20			11:35			11:50
Varsity Lakes			10:54			11:09			11:24			11:39			11:54
Tallebudgera			10:58			11:13			11:28			11:43			11:58
Elanora			11:02			11:17			11:32			11:47			12:02
Tugun			11:06			11:21			11:36			11:51			12:06
Coolangatta Airport			11:10			11:25			11:40			11:55			12:10

Roma Street	10:36	10:42	10:47	10:51	10:57	11:02	11:06	11:12	11:17	11:21	11:27	11:32	11:36	11:42	11:47	11:51	11:57
Albert Street	10:38	10:44	10:49	10:53	10:59	11:04	11:08	11:14	11:19	11:23	11:29	11:34	11:38	11:44	11:49	11:53	11:59
Wooloongabba	10:40	10:46	10:51	10:55	11:01	11:06	11:10	11:16	11:21	11:25	11:31	11:36	11:40	11:46	11:51	11:55	12:01
Park Road	10:42	10:48	10:53	10:57	11:03	11:08	11:12	11:18	11:23	11:27	11:33	11:38	11:42	11:48	11:53	11:57	12:03
Yeerongpilly	10:46	10:52	10:57	11:01	11:07	11:12	11:16	11:22	11:27	11:31	11:37	11:42	11:46	11:52	11:57	12:01	12:07
Salisbury	10:50		11:01	11:05		11:16	11:20		11:31	11:35		11:46	11:50		12:01	12:05	
Coopers Plains	10:53		|	11:08		|	11:23		|	11:38		|	11:53		|	12:08	
Banoon	10:55		|	11:10		|	11:25		|	11:40		|	11:55		|	12:10	
Sunnybank	10:57		|	11:12		|	11:27		|	11:42		|	11:57		|	12:12	
Altandi	11:00		|	11:15		|	11:30		|	11:45		|	12:00		|	12:15	
Runcorn	11:02		|	11:17		|	11:32		|	11:47		|	12:02		|	12:17	
Fruitgrove	11:03		|	11:18		|	11:33		|	11:48		|	12:03		|	12:18	
Kuraby	11:05		|	11:20		|	11:35		|	11:50		|	12:05		|	12:20	
Trinder Park	11:10		|	11:25		|	11:40		|	11:55		|	12:10		|	12:25	
Woodridge	11:12		|	11:27		|	11:42		|	11:57		|	12:12		|	12:27	
Kingston	11:16		|	11:31		|	11:46		|	12:01		|	12:16		|	12:31	
Loganlea	11:18		11:21	11:33		11:36	11:48		11:51	12:03		12:06	12:18		12:21	12:33	
Bethania	11:22		|	11:37		|	11:52		|	12:07		|	12:22		|	12:37	
Edens Landing	11:24		|	11:39		|	11:54		|	12:09		|	12:24		|	12:39	
Holmview	11:27		|	11:42		|	11:57		|	12:12		|	12:27		|	12:42	
Beenleigh	11:30		11:29	11:45		11:44	12:00		11:59	12:15		12:14	12:30		12:29	12:45	
Ormeau			11:36			11:51			12:06			12:21			12:36		
Pimpama			11:39			11:54			12:09			12:24			12:39		
Coomera			11:43			11:58			12:13			12:28			12:43		
Helensvale North			11:47			12:02			12:17			12:32			12:47		
Helensvale			11:51			12:06			12:21			12:36			12:51		
Nerang			11:56			12:11			12:26			12:41			12:56		
Merrimac			12:02			12:17			12:32			12:47			13:02		
Robina			12:05			12:20			12:35			12:50			13:05		
Varsity Lakes			12:09			12:24			12:39			12:54			13:09		
Tallebudgera			12:13			12:28			12:43			12:58			13:13		
Elanora			12:17			12:32			12:47			13:02			13:17		
Tugun			12:21			12:36			12:51			13:06			13:21		
Coolangatta Airport			12:25			12:40			12:55			13:10			13:25		

Clevewich sector

Rosewood		4:39		5:09		5:34			5:57				6:07				6:17			
Thagoona		4:43		5:13		5:38			6:01				6:11				6:21			
Walloon		4:47		5:17		5:42			6:05				6:15				6:25			
Karrabin		4:52		5:22		5:47			6:10				6:20				6:30			
Wulkuraka		4:55		5:25		5:50			6:13				6:23				6:33			
Thomas Street		4:57		5:27		5:52			6:15				6:25				6:35			
Ipswich	4:45	5:00	5:15	5:30	5:45	5:55	6:05	6:15	6:18	6:20	6:23	6:25	6:28	6:30	6:33	6:35	6:38	6:40	6:43	6:45
East Ipswich	4:47	5:02	5:17	5:32	5:47	5:57	6:07	6:17	6:20	6:22	6:25	6:27	6:30	6:32	6:35	6:37	6:40	6:42	6:45	6:47
Booval	4:50	5:05	5:20	5:35	5:50	6:00	6:10	6:20	6:23	6:25	6:28	6:30	6:33	6:35	6:38	6:40	6:43	6:45	6:48	6:50
Bundamba	4:52	5:07	5:22	5:37	5:52	6:02	6:12	6:22	6:25	6:27	6:30	6:32	6:35	6:37	6:40	6:42	6:45	6:47	6:50	6:52
Ebbw Vale	4:54	5:09	5:24	5:39	5:54	6:04	6:14	6:24	6:27	6:29	6:32	6:34	6:37	6:39	6:42	6:44	6:47	6:49	6:52	6:54
Dinmore	4:56	5:11	5:26	5:41	5:56	6:06	6:16	6:26	6:29	6:31	6:34	6:36	6:39	6:41	6:44	6:46	6:49	6:51	6:54	6:56
Riverview	4:58	5:13	5:28	5:43	5:58	6:08	6:18	6:28	6:31	6:33	6:36	6:38	6:41	6:43	6:46	6:48	6:51	6:53	6:56	6:58
Redbank	5:01	5:16	5:31	5:46	6:01	6:11	6:21	6:31	6:34	6:36	6:39	6:41	6:44	6:46	6:49	6:51	6:54	6:56	6:59	7:01
Goodna	5:05	5:20	5:35	5:50	6:05	6:15	6:25	6:35	6:38	6:40	6:43	6:45	6:48	6:50	6:53	6:55	6:58	7:00	7:03	7:05
Gailes	5:08	5:23	5:38	5:53	6:08	6:18	6:28	6:38	6:41	6:43	6:46	6:48	6:51	6:53	6:56	6:58	7:01	7:03	7:06	7:08
Wacol	5:10	5:25	5:40	5:55	6:10	6:20	6:30	6:40	6:43	6:45	6:48	6:50	6:53	6:55	6:58	7:00	7:03	7:05	7:08	7:10
Darra	5:15	5:30	5:45	6:00	6:15	6:25	6:35	6:45	6:48	6:50	6:53	6:55	6:58	7:00	7:03	7:05	7:08	7:10	7:13	7:15
Indooroopilly	5:25	5:40	5:55	6:10	6:25	6:35	6:45	6:55	6:58	7:00	7:03	7:05	7:08	7:10	7:13	7:15	7:18	7:20	7:23	7:25
Milton	5:30	5:45	6:00	6:15	6:30	6:40	6:50	7:00	7:03	7:05	7:08	7:10	7:13	7:15	7:18	7:20	7:23	7:25	7:28	7:30
Roma Street	5:33	5:48	6:03	6:18	6:33	6:43	6:53	7:03	7:06	7:08	7:11	7:13	7:16	7:18	7:21	7:23	7:26	7:28	7:31	7:33
Spring Hill	5:35	5:50	6:05	6:20	6:35	6:45	6:55	7:05	7:08	7:10	7:13	7:15	7:18	7:20	7:23	7:25	7:28	7:30	7:33	7:35
Teneriffe	5:37	5:52	6:07	6:22	6:37	6:47	6:57	7:07	7:10	7:12	7:15	7:17	7:20	7:22	7:25	7:27	7:30	7:32	7:35	7:37
Hawthorne	5:39	5:54	6:09	6:24	6:39	6:49	6:59	7:09	7:12	7:14	7:17	7:19	7:22	7:24	7:27	7:29	7:32	7:34	7:37	7:39
Cannon Hill	5:42	5:57	6:12	6:27	6:42	6:52	7:02	7:12	7:15	7:17	7:20	7:22	7:25	7:27	7:30	7:32	7:35	7:37	7:40	7:42
Murarrie	5:45	6:00	6:15	6:30	6:45	6:55	7:05	7:15	(07:18)	(07:20)	(07:23)	(07:25)	(07:28)	7:30	(07:33)	(07:35)	7:40			
Hemmant	5:49	6:04	6:19	6:34	6:49	6:59	7:09	7:19	(07:22)	(07:24)	(07:27)	(07:29)	(07:32)	7:34	(07:37)	(07:39)	7:44			
Lindum	5:51	6:06	6:21	6:36	6:51	7:01	7:11	7:21	(07:24)	(07:26)	(07:29)	(07:31)	(07:34)	7:36	(07:39)	(07:41)	7:46			
Wynnum North	5:54	6:09	6:24	6:39	6:54	7:04	7:14	7:24	(07:27)	(07:29)	(07:32)	(07:34)	(07:37)	7:39	(07:42)	(07:44)	7:49			
Wynnum	5:55	6:10	6:25	6:40	6:55	7:05	7:15	7:25	(07:28)	(07:30)	(07:33)	(07:35)	(07:38)	7:40	(07:43)	(07:45)	7:50			
Wynnum Central	5:57	6:12	6:27	6:42	6:57	7:07	7:17	7:27	(07:30)	(07:32)	(07:35)	(07:37)	(07:40)	7:42	(07:45)	(07:47)	7:52			
Manly	6:00	6:15	6:30	6:45	7:00	7:10	7:20	7:30	(07:33)	(07:35)	(07:38)	(07:40)	(07:43)	7:45	(07:48)	(07:50)	7:55			
Lota	6:03	6:18	6:33	6:48	7:03	7:13	7:23	7:33	(07:36)	(07:38)	(07:41)	(07:43)	(07:46)	7:48	(07:51)	(07:53)	7:58			
Thorneside	6:07	6:22	6:37	6:52	7:07	7:17	7:27	7:37	(07:40)	(07:42)	(07:45)	(07:47)	(07:50)	7:52	(07:55)	(07:57)	8:02			
Birkdale	6:10	6:25	6:40	6:55	7:10	7:20	7:30	7:40	(07:43)	(07:45)	(07:48)	(07:50)	(07:53)	7:55	(07:58)	(08:00)	8:05			
Wellington Point	6:14	6:29	6:44	6:59	7:14	7:24	7:34	7:44	(07:47)	(07:49)	(07:52)	(07:54)	(07:57)	7:59	(08:02)	(08:04)	8:09			
Ormiston	6:17	6:32	6:47	7:02	7:17	7:27	7:37	7:47	(07:50)	(07:52)	(07:55)	(07:57)	(08:00)	8:02	(08:05)	(08:07)	8:12			
Cleveland	6:20	6:35	6:50	7:05	7:20	7:30	7:40	7:50	(07:53)	(07:55)	(07:58)	(08:00)	(08:03)	8:05	(08:08)	(08:10)	8:15			

Rosewood	6:27				6:37				6:47				6:57				7:07			
Thagoona	6:31				6:41				6:51				7:01				7:11			
Walloon	6:35				6:45				6:55				7:05				7:15			
Karrabin	6:40				6:50				7:00				7:10				7:20			
Wulkuraka	6:43				6:53				7:03				7:13				7:23			
Thomas Street	6:45				6:55				7:05				7:15				7:25			
Ipswich	6:48	6:50	6:53	6:55	6:58	7:00	7:03	7:05	7:08	7:10	7:13	7:15	7:18	7:20	7:23	7:25	7:28	7:30	7:33	7:35
East Ipswich	6:50	6:52	6:55	6:57	7:00	7:02	7:05	7:07	7:10	7:12	7:15	7:17	7:20	7:22	7:25	7:27	7:30	7:32	7:35	7:37
Booval	6:53	6:55	6:58	7:00	7:03	7:05	7:08	7:10	7:13	7:15	7:18	7:20	7:23	7:25	7:28	7:30	7:33	7:35	7:38	7:40
Bundamba	6:55	6:57	7:00	7:02	7:05	7:07	7:10	7:12	7:15	7:17	7:20	7:22	7:25	7:27	7:30	7:32	7:35	7:37	7:40	7:42
Ebbw Vale	6:57	6:59	7:02	7:04	7:07	7:09	7:12	7:14	7:17	7:19	7:22	7:24	7:27	7:29	7:32	7:34	7:37	7:39	7:42	7:44
Dinmore	6:59	7:01	7:04	7:06	7:09	7:11	7:14	7:16	7:19	7:21	7:24	7:26	7:29	7:31	7:34	7:36	7:39	7:41	7:44	7:46
Riverview	7:01	7:03	7:06	7:08	7:11	7:13	7:16	7:18	7:21	7:23	7:26	7:28	7:31	7:33	7:36	7:38	7:41	7:43	7:46	7:48
Redbank	7:04	7:06	7:09	7:11	7:14	7:16	7:19	7:21	7:24	7:26	7:29	7:31	7:34	7:36	7:39	7:41	7:44	7:46	7:49	7:51
Goodna	7:08	7:10	7:13	7:15	7:18	7:20	7:23	7:25	7:28	7:30	7:33	7:35	7:38	7:40	7:43	7:45	7:48	7:50	7:53	7:55
Gailes	7:11	7:13	7:16	7:18	7:21	7:23	7:26	7:28	7:31	7:33	7:36	7:38	7:41	7:43	7:46	7:48	7:51	7:53	7:56	7:58
Wacol	7:13	7:15	7:18	7:20	7:23	7:25	7:28	7:30	7:33	7:35	7:38	7:40	7:43	7:45	7:48	7:50	7:53	7:55	7:58	8:00
Darra	7:18	7:20	7:23	7:25	7:28	7:30	7:33	7:35	7:38	7:40	7:43	7:45	7:48	7:50	7:53	7:55	7:58	8:00	8:03	8:05
Indooroopilly	7:28	7:30	7:33	7:35	7:38	7:40	7:43	7:45	7:48	7:50	7:53	7:55	7:58	8:00	8:03	8:05	8:08	8:10	8:13	8:15
Milton	7:33	7:35	7:38	7:40	7:43	7:45	7:48	7:50	7:53	7:55	7:58	8:00	8:03	8:05	8:08	8:10	8:13	8:15	8:18	8:20
Roma Street	7:36	7:38	7:41	7:43	7:46	7:48	7:51	7:53	7:56	7:58	8:01	8:03	8:06	8:08	8:11	8:13	8:16	8:18	8:21	8:23
Spring Hill	7:38	7:40	7:43	7:45	7:48	7:50	7:53	7:55	7:58	8:00	8:03	8:05	8:08	8:10	8:13	8:15	8:18	8:20	8:23	8:25
Teneriffe	7:40	7:42	7:45	7:47	7:50	7:52	7:55	7:57	8:00	8:02	8:05	8:07	8:10	8:12	8:15	8:17	8:20	8:22	8:25	8:27
Hawthorne	7:42	7:44	7:47	7:49	7:52	7:54	7:57	7:59	8:02	8:04	8:07	8:09	8:12	8:14	8:17	8:19	8:22	8:24	8:27	8:29
Cannon Hill	7:45	7:47	7:50	7:52	7:55	7:57	8:00	8:02	8:05	8:07	8:10	8:12	8:15	8:17	8:20	8:22	8:25	8:27	8:30	8:32
Murarrie	7:48				8:03				8:18				8:33							
Hemmant	7:52				8:07				8:22				8:37							
Lindum	7:54				8:09				8:24				8:39							
Wynnum North	7:57				8:12				8:27				8:42							
Wynnum	7:58				8:13				8:28				8:43							
Wynnum Central	8:00				8:15				8:30				8:45							
Manly	8:03				8:18				8:33				8:48							
Lota	8:06				8:21				8:36				8:51							
Thorneside	8:10				8:25				8:40				8:55							
Birkdale	8:13				8:28				8:43				8:58							
Wellington Point	8:17				8:32				8:47				9:02							
Ormiston	8:20				8:35				8:50				9:05							
Cleveland	8:23				8:38				8:53				9:08							

Rosewood	7:17				7:27				7:37				7:47					8:09		
Thagoona	7:21				7:31				7:41				7:51					8:13		
Walloon	7:25				7:35				7:45				7:55					8:17		
Karrabin	7:30				7:40				7:50				8:00					8:22		
Wulkuraka	7:33				7:43				7:53				8:03					8:25		
Thomas Street	7:35				7:45				7:55				8:05					8:27		
Ipswich	7:38	7:40	7:43	7:45	7:48	7:50	7:53	7:55	7:58	8:00	8:03	8:05	8:08	8:10	8:13	8:18	8:23	8:30	8:40	8:50
East Ipswich	7:40	7:42	7:45	7:47	7:50	7:52	7:55	7:57	8:00	8:02	8:05	8:07	8:10	8:12	8:15	8:20	8:25	8:32	8:42	8:52
Booval	7:43	7:45	7:48	7:50	7:53	7:55	7:58	8:00	8:03	8:05	8:08	8:10	8:13	8:15	8:18	8:23	8:28	8:35	8:45	8:55
Bundamba	7:45	7:47	7:50	7:52	7:55	7:57	8:00	8:02	8:05	8:07	8:10	8:12	8:15	8:17	8:20	8:25	8:30	8:37	8:47	8:57
Ebbw Vale	7:47	7:49	7:52	7:54	7:57	7:59	8:02	8:04	8:07	8:09	8:12	8:14	8:17	8:19	8:22	8:27	8:32	8:39	8:49	8:59
Dinmore	7:49	7:51	7:54	7:56	7:59	8:01	8:04	8:06	8:09	8:11	8:14	8:16	8:19	8:21	8:24	8:29	8:34	8:41	8:51	9:01
Riverview	7:51	7:53	7:56	7:58	8:01	8:03	8:06	8:08	8:11	8:13	8:16	8:18	8:21	8:23	8:26	8:31	8:36	8:43	8:53	9:03
Redbank	7:54	7:56	7:59	8:01	8:04	8:06	8:09	8:11	8:14	8:16	8:19	8:21	8:24	8:26	8:29	8:34	8:39	8:46	8:56	9:06
Goodna	7:58	8:00	8:03	8:05	8:08	8:10	8:13	8:15	8:18	8:20	8:23	8:25	8:28	8:30	8:33	8:38	8:43	8:50	9:00	9:10
Gailes	8:01	8:03	8:06	8:08	8:11	8:13	8:16	8:18	8:21	8:23	8:26	8:28	8:31	8:33	8:36	8:41	8:46	8:53	9:03	9:13
Wacol	8:03	8:05	8:08	8:10	8:13	8:15	8:18	8:20	8:23	8:25	8:28	8:30	8:33	8:35	8:38	8:43	8:48	8:55	9:05	9:15
Darra	8:08	8:10	8:13	8:15	8:18	8:20	8:23	8:25	8:28	8:30	8:33	8:35	8:38	8:40	8:43	8:48	8:53	9:00	9:10	9:20
Indooroopilly	8:18	8:20	8:23	8:25	8:28	8:30	8:33	8:35	8:38	8:40	8:43	8:45	8:48	8:50	8:53	8:58	9:03	9:10	9:20	9:30
Milton	8:23	8:25	8:28	8:30	8:33	8:35	8:38	8:40	8:43	8:45	8:48	8:50	8:53	8:55	8:58	9:03	9:08	9:15	9:25	9:35
Roma Street	8:26	8:28	8:31	8:33	8:36	8:38	8:41	8:43	8:46	8:48	8:51	8:53	8:56	8:58	9:01	9:06	9:11	9:18	9:28	9:38
Spring Hill	8:28	8:30	8:33	8:35	8:38	8:40	8:43	8:45	8:48	8:50	8:53	8:55	8:58	9:00	9:03	9:08	9:13	9:20	9:30	9:40
Teneriffe	8:30	8:32	8:35	8:37	8:40	8:42	8:45	8:47	8:50	8:52	8:55	8:57	9:00	9:02	9:05	9:10	9:15	9:22	9:32	9:42
Hawthorne	8:32	8:34	8:37	8:39	8:42	8:44	8:47	8:49	8:52	8:54	8:57	8:59	9:02	9:04	9:07	9:12	9:17	9:24	9:34	9:44
Cannon Hill	8:35	8:37	8:40	8:42	8:45	8:47	8:50	8:52	8:55	8:57	9:00	9:02	9:05	9:07	9:10	9:15	9:20	9:27	9:37	9:47
Murarrie	8:48				9:03				9:18				9:23					9:30	9:40	9:50
Hemmant	8:52				9:07				9:22				9:27					9:34	9:44	9:54
Lindum	8:54				9:09				9:24				9:29					9:36	9:46	9:56
Wynnum North	8:57				9:12				9:27				9:32					9:39	9:49	9:59
Wynnum	8:58				9:13				9:28				9:33					9:40	9:50	10:00
Wynnum Central	9:00				9:15				9:30				9:35					9:42	9:52	10:02
Manly	9:03				9:18				9:33				9:38					9:45	9:55	10:05
Lota	9:06				9:21				9:36				9:41					9:48	9:58	10:08
Thorneside	9:10				9:25				9:40				9:45					9:52	10:02	10:12
Birkdale	9:13				9:28				9:43				9:48					9:55	10:05	10:15
Wellington Point	9:17				9:32				9:47				9:52					9:59	10:09	10:19
Ormiston	9:20				9:35				9:50				9:55					10:02	10:12	10:22
Cleveland	9:23				9:38				9:53				9:58					10:05	10:15	10:25

Rosewood	8:39		9:09		9:39		10:09		10:39		11:09		11:39		12:09	
Thagoona	8:43		9:13		9:43		10:13		10:43		11:13		11:43		12:13	
Walloon	8:47		9:17		9:47		10:17		10:47		11:17		11:47		12:17	
Karrabin	8:52		9:22		9:52		10:22		10:52		11:22		11:52		12:22	
Wulkuraka	8:55		9:25		9:55		10:25		10:55		11:25		11:55		12:25	
Thomas Street	8:57		9:27		9:57		10:27		10:57		11:27		11:57		12:27	
Ipswich	9:00	9:15	9:30	9:45	10:00	10:15	10:30	10:45	11:00	11:15	11:30	11:45	12:00	12:15	12:30	12:45
East Ipswich	9:02	9:17	9:32	9:47	10:02	10:17	10:32	10:47	11:02	11:17	11:32	11:47	12:02	12:17	12:32	12:47
Booval	9:05	9:20	9:35	9:50	10:05	10:20	10:35	10:50	11:05	11:20	11:35	11:50	12:05	12:20	12:35	12:50
Bundamba	9:07	9:22	9:37	9:52	10:07	10:22	10:37	10:52	11:07	11:22	11:37	11:52	12:07	12:22	12:37	12:52
Ebbw Vale	9:09	9:24	9:39	9:54	10:09	10:24	10:39	10:54	11:09	11:24	11:39	11:54	12:09	12:24	12:39	12:54
Dinmore	9:11	9:26	9:41	9:56	10:11	10:26	10:41	10:56	11:11	11:26	11:41	11:56	12:11	12:26	12:41	12:56
Riverview	9:13	9:28	9:43	9:58	10:13	10:28	10:43	10:58	11:13	11:28	11:43	11:58	12:13	12:28	12:43	12:58
Redbank	9:16	9:31	9:46	10:01	10:16	10:31	10:46	11:01	11:16	11:31	11:46	12:01	12:16	12:31	12:46	13:01
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Gailes	9:23	9:38	9:53	10:08	10:23	10:38	10:53	11:08	11:23	11:38	11:53	12:08	12:23	12:38	12:53	13:08
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Darra	9:30	9:45	10:00	10:15	10:30	10:45	11:00	11:15	11:30	11:45	12:00	12:15	12:30	12:45	13:00	13:15
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Milton	9:45	10:00	10:15	10:30	10:45	11:00	11:15	11:30	11:45	12:00	12:15	12:30	12:45	13:00	13:15	13:30
Roma Street	9:48	10:03	10:18	10:33	10:48	11:03	11:18	11:33	11:48	12:03	12:18	12:33	12:48	13:03	13:18	13:33
Spring Hill	9:50	10:05	10:20	10:35	10:50	11:05	11:20	11:35	11:50	12:05	12:20	12:35	12:50	13:05	13:20	13:35
Teneriffe	9:52	10:07	10:22	10:37	10:52	11:07	11:22	11:37	11:52	12:07	12:22	12:37	12:52	13:07	13:22	13:37
Hawthorne	9:54	10:09	10:24	10:39	10:54	11:09	11:24	11:39	11:54	12:09	12:24	12:39	12:54	13:09	13:24	13:39
Cannon Hill	9:57	10:12	10:27	10:42	10:57	11:12	11:27	11:42	11:57	12:12	12:27	12:42	12:57	13:12	13:27	13:42
Murarrie	10:00	10:15	10:30	10:45	11:00	11:15	11:30	11:45	12:00	12:15	12:30	12:45	13:00	13:15	13:30	13:45
Hemmant	10:04	10:19	10:34	10:49	11:04	11:19	11:34	11:49	12:04	12:19	12:34	12:49	13:04	13:19	13:34	13:49
Lindum	10:06	10:21	10:36	10:51	11:06	11:21	11:36	11:51	12:06	12:21	12:36	12:51	13:06	13:21	13:36	13:51
Wynnum North	10:09	10:24	10:39	10:54	11:09	11:24	11:39	11:54	12:09	12:24	12:39	12:54	13:09	13:24	13:39	13:54
Wynnum	10:10	10:25	10:40	10:55	11:10	11:25	11:40	11:55	12:10	12:25	12:40	12:55	13:10	13:25	13:40	13:55
Wynnum Central	10:12	10:27	10:42	10:57	11:12	11:27	11:42	11:57	12:12	12:27	12:42	12:57	13:12	13:27	13:42	13:57
Manly	10:15	10:30	10:45	11:00	11:15	11:30	11:45	12:00	12:15	12:30	12:45	13:00	13:15	13:30	13:45	14:00
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Thorneside	10:22	10:37	10:52	11:07	11:22	11:37	11:52	12:07	12:22	12:37	12:52	13:07	13:22	13:37	13:52	14:07
Birkdale	10:25	10:40	10:55	11:10	11:25	11:40	11:55	12:10	12:25	12:40	12:55	13:10	13:25	13:40	13:55	14:10
Wellington Point	10:29	10:44	10:59	11:14	11:29	11:44	11:59	12:14	12:29	12:44	12:59	13:14	13:29	13:44	13:59	14:14
Ormiston	10:32	10:47	11:02	11:17	11:32	11:47	12:02	12:17	12:32	12:47	13:02	13:17	13:32	13:47	14:02	14:17
Cleveland	10:35	10:50	11:05	11:20	11:35	11:50	12:05	12:20	12:35	12:50	13:05	13:20	13:35	13:50	14:05	14:20

Cleveland	4:45	5:00	5:15	5:30	5:45	5:55	6:05	6:15	6:17	6:20	6:22	6:25	6:27	6:30	6:32	6:35	6:37	6:40	6:42	6:45
Ormiston	4:48	5:03	5:18	5:33	5:48	5:58	6:08	6:18	6:20	6:23	6:25	6:28	6:30	6:33	6:35	6:38	6:40	6:43	6:45	6:48
Wellington Point	4:51	5:06	5:21	5:36	5:51	6:01	6:11	6:21	6:23	6:26	6:28	6:31	6:33	6:36	6:38	6:41	6:43	6:46	6:48	6:51
Birkdale	4:55	5:10	5:25	5:40	5:55	6:05	6:15	6:25	6:27	6:30	6:32	6:35	6:37	6:40	6:42	6:45	6:47	6:50	6:52	6:55
Thorneside	4:58	5:13	5:28	5:43	5:58	6:08	6:18	6:28	6:30	6:33	6:35	6:38	6:40	6:43	6:45	6:48	6:50	6:53	6:55	6:58
Lota	5:02	5:17	5:32	5:47	6:02	6:12	6:22	6:32	6:34	6:37	6:39	6:42	6:44	6:47	6:49	6:52	6:54	6:57	6:59	7:02
Manly	5:05	5:20	5:35	5:50	6:05	6:15	6:25	6:35	6:37	6:40	6:42	6:45	6:47	6:50	6:52	6:55	6:57	7:00	7:02	7:05
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Lindum	5:14	5:29	5:44	5:59	6:14	6:24	6:34	6:44	6:46	6:49	6:51	6:54	6:56	6:59	7:01	7:04	7:06	7:09	7:11	7:14
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Hawthorne	5:26	5:41	5:56	6:11	6:26	6:36	6:46	6:56	6:58	7:01	7:03	7:06	7:08	7:11	7:13	7:16	7:18	7:21	7:23	7:26
Teneriffe	5:28	5:43	5:58	6:13	6:28	6:38	6:48	6:58	7:00	7:03	7:05	7:08	7:10	7:13	7:15	7:18	7:20	7:23	7:25	7:28
Spring Hill	5:30	5:45	6:00	6:15	6:30	6:40	6:50	7:00	7:02	7:05	7:07	7:10	7:12	7:15	7:17	7:20	7:22	7:25	7:27	7:30
Roma Street	5:32	5:47	6:02	6:17	6:32	6:42	6:52	7:02	7:04	7:07	7:09	7:12	7:14	7:17	7:19	7:22	7:24	7:27	7:29	7:32
Milton	5:35	5:50	6:05	6:20	6:35	6:45	6:55	7:05	7:07	7:10	7:12	7:15	7:17	7:20	7:22	7:25	7:27	7:30	7:32	7:35
Indooroopilly	5:40	5:55	6:10	6:25	6:40	6:50	7:00	7:10	7:12	7:15	7:17	7:20	7:22	7:25	7:27	7:30	7:32	7:35	7:37	7:40
Darra	5:50	6:05	6:20	6:35	6:50	7:00	7:10	7:20	7:22	7:25	7:27	7:30	7:32	7:35	7:37	7:40	7:42	7:45	7:47	7:50
Wacol	5:55	6:10	6:25	6:40	6:55	7:05	7:15	7:25	7:27	7:30	7:32	7:35	7:37	7:40	7:42	7:45	7:47	7:50	7:52	7:55
Gailes	5:57	6:12	6:27	6:42	6:57	7:07	7:17	7:27	7:29	7:32	7:34	7:37	7:39	7:42	7:44	7:47	7:49	7:52	7:54	7:57
Goodna	6:00	6:15	6:30	6:45	7:00	7:10	7:20	7:30	7:32	7:35	7:37	7:40	7:42	7:45	7:47	7:50	7:52	7:55	7:57	8:00
Redbank	6:04	6:19	6:34	6:49	7:04	7:14	7:24	7:34	7:36	7:39	7:41	7:44	7:46	7:49	7:51	7:54	7:56	7:59	8:01	8:04
Riverview	6:07	6:22	6:37	6:52	7:07	7:17	7:27	7:37	(07:39)	(07:42)	(07:44)	(07:47)	(07:49)	7:52	7:57	8:02				
Dinmore	6:09	6:24	6:39	6:54	7:09	7:19	7:29	7:39	(07:41)	(07:44)	(07:46)	(07:49)	(07:51)	7:54	7:59	8:04				
Ebbw Vale	6:11	6:26	6:41	6:56	7:11	7:21	7:31	7:41	(07:43)	(07:46)	(07:48)	(07:51)	(07:53)	7:56	8:01	8:06				
Bundamba	6:13	6:28	6:43	6:58	7:13	7:23	7:33	7:43	(07:45)	(07:48)	(07:50)	(07:53)	(07:55)	7:58	8:03	8:08				
Booval	6:15	6:30	6:45	7:00	7:15	7:25	7:35	7:45	(07:47)	(07:50)	(07:52)	(07:55)	(07:57)	8:00	8:05	8:10				
East Ipswich	6:18	6:33	6:48	7:03	7:18	7:28	7:38	7:48	(07:50)	(07:53)	(07:55)	(07:58)	(08:00)	8:03	8:08	8:13				
Ipswich	6:20	6:35	6:50	7:05	7:20	7:30	7:40	7:50	(07:52)	(07:55)	(07:57)	(08:00)	(08:02)	8:05	8:10	8:15				
Thomas Street		6:38		7:08			7:43							8:08						
Wulkuraka		6:40		7:10			7:45							8:10						
Karrabin		6:43		7:13			7:48							8:13						
Walloon		6:48		7:18			7:53							8:18						
Thagoona		6:52		7:22			7:57							8:22						
Rosewood		6:56		7:26			8:01							8:26						

Cleveland	6:47	6:50	6:52	6:55	6:57	7:00	7:02	7:05	7:07	7:10	7:12	7:15	7:17	7:20	7:22	7:25	7:27	7:30	7:32	7:35
Ormiston	6:50	6:53	6:55	6:58	7:00	7:03	7:05	7:08	7:10	7:13	7:15	7:18	7:20	7:23	7:25	7:28	7:30	7:33	7:35	7:38
Wellington Point	6:53	6:56	6:58	7:01	7:03	7:06	7:08	7:11	7:13	7:16	7:18	7:21	7:23	7:26	7:28	7:31	7:33	7:36	7:38	7:41
Birkdale	6:57	7:00	7:02	7:05	7:07	7:10	7:12	7:15	7:17	7:20	7:22	7:25	7:27	7:30	7:32	7:35	7:37	7:40	7:42	7:45
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Lota	7:04	7:07	7:09	7:12	7:14	7:17	7:19	7:22	7:24	7:27	7:29	7:32	7:34	7:37	7:39	7:42	7:44	7:47	7:49	7:52
Manly	7:07	7:10	7:12	7:15	7:17	7:20	7:22	7:25	7:27	7:30	7:32	7:35	7:37	7:40	7:42	7:45	7:47	7:50	7:52	7:55
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Wynnum	7:12	7:15	7:17	7:20	7:22	7:25	7:27	7:30	7:32	7:35	7:37	7:40	7:42	7:45	7:47	7:50	7:52	7:55	7:57	8:00
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Riverview	8:17		8:22		8:27							8:37				8:47				8:52
Dinmore	8:19		8:24		8:29							8:39				8:49				8:54
Ebbw Vale	8:21		8:26		8:31							8:41				8:51				8:56
Bundamba	8:23		8:28		8:33							8:43				8:53				8:58
Booval	8:25		8:30		8:35							8:45				8:55				9:00
East Ipswich	8:28		8:33		8:38							8:48				8:58				9:03
Ipswich	8:30		8:35		8:40							8:50				9:00				9:05
Thomas Street			8:38									EMPTY								9:08
Wulkuraka			8:40																	9:10
Karrabin			8:43																	9:13
Walloon			8:48																	9:18
Thagoona			8:52																	9:22
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Cleveland	7:37	7:40	7:42	7:45	7:47	7:50	7:52	7:55	7:57	8:00	8:02	8:05	8:07	8:10	8:12	8:15	8:25	8:35	8:45	9:00
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Birkdale	7:47	7:50	7:52	7:55	7:57	8:00	8:02	8:05	8:07	8:10	8:12	8:15	8:17	8:20	8:22	8:25	8:35	8:45	8:55	9:10
Thorneside	7:50	7:53	7:55	7:58	8:00	8:03	8:05	8:08	8:10	8:13	8:15	8:18	8:20	8:23	8:25	8:28	8:38	8:48	8:58	9:13
Lota	7:54	7:57	7:59	8:02	8:04	8:07	8:09	8:12	8:14	8:17	8:19	8:22	8:24	8:27	8:29	8:32	8:42	8:52	9:02	9:17
Manly	7:57	8:00	8:02	8:05	8:07	8:10	8:12	8:15	8:17	8:20	8:22	8:25	8:27	8:30	8:32	8:35	8:45	8:55	9:05	9:20
Wynnum Central	8:00	8:03	8:05	8:08	8:10	8:13	8:15	8:18	8:20	8:23	8:25	8:28	8:30	8:33	8:35	8:38	8:48	8:58	9:08	9:23
Wynnum	8:02	8:05	8:07	8:10	8:12	8:15	8:17	8:20	8:22	8:25	8:27	8:30	8:32	8:35	8:37	8:40	8:50	9:00	9:10	9:25
Wynnum North	8:03	8:06	8:08	8:11	8:13	8:16	8:18	8:21	8:23	8:26	8:28	8:31	8:33	8:36	8:38	8:41	8:51	9:01	9:11	9:26
Lindum	8:06	8:09	8:11	8:14	8:16	8:19	8:21	8:24	8:26	8:29	8:31	8:34	8:36	8:39	8:41	8:44	8:54	9:04	9:14	9:29
Hemmant	8:08	8:11	8:13	8:16	8:18	8:21	8:23	8:26	8:28	8:31	8:33	8:36	8:38	8:41	8:43	8:46	8:56	9:06	9:16	9:31
Murarrie	8:12	8:15	8:17	8:20	8:22	8:25	8:27	8:30	8:32	8:35	8:37	8:40	8:42	8:45	8:47	8:50	9:00	9:10	9:20	9:35
Cannon Hill	8:15	8:18	8:20	8:23	8:25	8:28	8:30	8:33	8:35	8:38	8:40	8:43	8:45	8:48	8:50	8:53	9:03	9:13	9:23	9:38
Hawthorne	8:18	8:21	8:23	8:26	8:28	8:31	8:33	8:36	8:38	8:41	8:43	8:46	8:48	8:51	8:53	8:56	9:06	9:16	9:26	9:41
Teneriffe	8:20	8:23	8:25	8:28	8:30	8:33	8:35	8:38	8:40	8:43	8:45	8:48	8:50	8:53	8:55	8:58	9:08	9:18	9:28	9:43
Spring Hill	8:22	8:25	8:27	8:30	8:32	8:35	8:37	8:40	8:42	8:45	8:47	8:50	8:52	8:55	8:57	9:00	9:10	9:20	9:30	9:45
Roma Street	8:24	8:27	8:29	8:32	8:34	8:37	8:39	8:42	8:44	8:47	8:49	8:52	8:54	8:57	8:59	9:02	9:12	9:22	9:32	9:47
Milton	8:27	8:30	8:32	8:35	8:37	8:40	8:42	8:45	8:47	8:50	8:52	8:55	8:57	9:00	9:02	9:05	9:15	9:25	9:35	9:50
Indooroopilly	8:32	8:35	8:37	8:40	8:42	8:45	8:47	8:50	8:52	8:55	8:57	9:00	9:02	9:05	9:07	9:10	9:20	9:30	9:40	9:55
Darra	8:42	8:45	8:47	8:50	8:52	8:55	8:57	9:00	9:02	9:05	9:07	9:10	9:12	9:15	9:17	9:20	9:30	9:40	9:50	10:05
Wacol	8:47	8:50	8:52	8:55	8:57	9:00	9:02	9:05	9:07	9:10	9:12	9:15	9:17	9:20	9:22	9:25	9:35	9:45	9:55	10:10
Gailes	8:49	8:52	8:54	8:57	8:59	9:02	9:04	9:07	9:09	9:12	9:14	9:17	9:19	9:22	9:24	9:27	9:37	9:47	9:57	10:12
Goodna	8:52	8:55	8:57	9:00	9:02	9:05	9:07	9:10	9:12	9:15	9:17	9:20	9:22	9:25	9:27	9:30	9:40	9:50	10:00	10:15
Redbank	8:56	8:59	9:01	9:04	9:06	9:09	9:11	9:14	9:16	9:19	9:21	9:24	9:26	9:29	9:31	9:34	9:44	9:54	10:04	10:19
Riverview	9:07		9:22										9:37	9:47	9:57	10:07	10:22			
Dinmore	9:09		9:24										9:39	9:49	9:59	10:09	10:24			
Ebbw Vale	9:11		9:26										9:41	9:51	10:01	10:11	10:26			
Bundamba	9:13		9:28										9:43	9:53	10:03	10:13	10:28			
Booval	9:15		9:30										9:45	9:55	10:05	10:15	10:30			
East Ipswich	9:18		9:33										9:48	9:58	10:08	10:18	10:33			
Ipswich	9:20		9:35										9:50	10:00	10:10	10:20	10:35			
Thomas Street			9:38											10:03	EMPTY		10:38			
Wulkuraka			9:40											10:05			10:40			
Karrabin			9:43											10:08			10:43			
Walloon			9:48											10:13			10:48			
Thagoona			9:52											10:17			10:52			
Rosewood			9:56											10:21			10:56			

Cleveland	9:15	9:30	9:45	10:00	10:15	10:30	10:45	11:00	11:15	11:30	11:45	12:00	12:15	12:30	12:45
Ormiston	9:18	9:33	9:48	10:03	10:18	10:33	10:48	11:03	11:18	11:33	11:48	12:03	12:18	12:33	12:48
Wellington Point	9:21	9:36	9:51	10:06	10:21	10:36	10:51	11:06	11:21	11:36	11:51	12:06	12:21	12:36	12:51
Birkdale	9:25	9:40	9:55	10:10	10:25	10:40	10:55	11:10	11:25	11:40	11:55	12:10	12:25	12:40	12:55
Thorneside	9:28	9:43	9:58	10:13	10:28	10:43	10:58	11:13	11:28	11:43	11:58	12:13	12:28	12:43	12:58
Lota	9:32	9:47	10:02	10:17	10:32	10:47	11:02	11:17	11:32	11:47	12:02	12:17	12:32	12:47	13:02
Manly	9:35	9:50	10:05	10:20	10:35	10:50	11:05	11:20	11:35	11:50	12:05	12:20	12:35	12:50	13:05
Wynnum Central	9:38	9:53	10:08	10:23	10:38	10:53	11:08	11:23	11:38	11:53	12:08	12:23	12:38	12:53	13:08
Wynnum	9:40	9:55	10:10	10:25	10:40	10:55	11:10	11:25	11:40	11:55	12:10	12:25	12:40	12:55	13:10
Wynnum North	9:41	9:56	10:11	10:26	10:41	10:56	11:11	11:26	11:41	11:56	12:11	12:26	12:41	12:56	13:11
Lindum	9:44	9:59	10:14	10:29	10:44	10:59	11:14	11:29	11:44	11:59	12:14	12:29	12:44	12:59	13:14
Hemmant	9:46	10:01	10:16	10:31	10:46	11:01	11:16	11:31	11:46	12:01	12:16	12:31	12:46	13:01	13:16
Murarrie	9:50	10:05	10:20	10:35	10:50	11:05	11:20	11:35	11:50	12:05	12:20	12:35	12:50	13:05	13:20
Cannon Hill	9:53	10:08	10:23	10:38	10:53	11:08	11:23	11:38	11:53	12:08	12:23	12:38	12:53	13:08	13:23
Hawthorne	9:56	10:11	10:26	10:41	10:56	11:11	11:26	11:41	11:56	12:11	12:26	12:41	12:56	13:11	13:26
Teneriffe	9:58	10:13	10:28	10:43	10:58	11:13	11:28	11:43	11:58	12:13	12:28	12:43	12:58	13:13	13:28
Spring Hill	10:00	10:15	10:30	10:45	11:00	11:15	11:30	11:45	12:00	12:15	12:30	12:45	13:00	13:15	13:30
Roma Street	10:02	10:17	10:32	10:47	11:02	11:17	11:32	11:47	12:02	12:17	12:32	12:47	13:02	13:17	13:32
Milton	10:05	10:20	10:35	10:50	11:05	11:20	11:35	11:50	12:05	12:20	12:35	12:50	13:05	13:20	13:35
Indooroopilly	10:10	10:25	10:40	10:55	11:10	11:25	11:40	11:55	12:10	12:25	12:40	12:55	13:10	13:25	13:40
Darra	10:20	10:35	10:50	11:05	11:20	11:35	11:50	12:05	12:20	12:35	12:50	13:05	13:20	13:35	13:50
Wacol	10:25	10:40	10:55	11:10	11:25	11:40	11:55	12:10	12:25	12:40	12:55	13:10	13:25	13:40	13:55
Gailes	10:27	10:42	10:57	11:12	11:27	11:42	11:57	12:12	12:27	12:42	12:57	13:12	13:27	13:42	13:57
Goodna	10:30	10:45	11:00	11:15	11:30	11:45	12:00	12:15	12:30	12:45	13:00	13:15	13:30	13:45	14:00
Redbank	10:34	10:49	11:04	11:19	11:34	11:49	12:04	12:19	12:34	12:49	13:04	13:19	13:34	13:49	14:04
Riverview	10:37	10:52	11:07	11:22	11:37	11:52	12:07	12:22	12:37	12:52	13:07	13:22	13:37	13:52	14:07
Dinmore	10:39	10:54	11:09	11:24	11:39	11:54	12:09	12:24	12:39	12:54	13:09	13:24	13:39	13:54	14:09
Ebbw Vale	10:41	10:56	11:11	11:26	11:41	11:56	12:11	12:26	12:41	12:56	13:11	13:26	13:41	13:56	14:11
Bundamba	10:43	10:58	11:13	11:28	11:43	11:58	12:13	12:28	12:43	12:58	13:13	13:28	13:43	13:58	14:13
Booval	10:45	11:00	11:15	11:30	11:45	12:00	12:15	12:30	12:45	13:00	13:15	13:30	13:45	14:00	14:15
East Ipswich	10:48	11:03	11:18	11:33	11:48	12:03	12:18	12:33	12:48	13:03	13:18	13:33	13:48	14:03	14:18
Ipswich	10:50	11:05	11:20	11:35	11:50	12:05	12:20	12:35	12:50	13:05	13:20	13:35	13:50	14:05	14:20
Thomas Street		11:08		11:38		12:08		12:38		13:08		13:38		14:08	
Wulkuraka		11:10		11:40		12:10		12:40		13:10		13:40		14:10	
Karrabin		11:13		11:43		12:13		12:43		13:13		13:43		14:13	
Walloon		11:18		11:48		12:18		12:48		13:18		13:48		14:18	
Thagoona		11:22		11:52		12:22		12:52		13:22		13:52		14:22	
Rosewood		11:26		11:56		12:26		12:56		13:26		13:56		14:26	

Freight paths

Gympie North		7:25					7:49							8:04		8:25									
Traveston		7:43					8:07							8:22		8:43									
Cooran		7:49					8:13							8:28		8:49									
Pomona		7:56					8:20							8:35		8:56									
Cooroy		8:04					8:28							8:43		9:04									
Eumundi		8:10					8:34							8:49		9:10									
Yandina		8:17					8:41							8:56		9:17									
Nambour		8:26					8:50	8:56						9:05		9:26									
Woombye		8:31					8:55	9:01						9:10		9:31									
Palmwoods		8:35					8:59	9:05						9:14		9:35									
Eudlo		8:41					9:05	9:11						9:20		9:41									
Mooloolah		8:48					9:12	9:18						9:27		9:48									
Landsborough		8:54					9:18	9:24						9:33		9:54									
Beerwah		8:59	9:03			9:18	9:23	9:29				9:33		9:38	9:48	9:59		10:03			10:18			10:33	
Glass House Mountains			9:08			9:23				9:28		9:38		9:43	9:53			10:08			10:23			10:38	
Beerburrum			9:16			9:31				9:36		9:46		9:51	10:01			10:16			10:31			10:46	
Elimbah			9:21			9:36				9:41		9:51		9:56	10:06			10:21			10:36			10:51	
Caboolture			9:28		9:30	9:43			9:45	9:48	9:58		10:00	10:03	10:13		10:15	10:28		10:30	10:43		10:45	10:58	
Morayfield			|		9:33	|			9:48	9:51	|		10:03	10:06	|		10:18	|		10:33	|		10:48	|	
Burpengary			|		9:38	|			9:53	9:56	|		10:08	10:11	|		10:23	|		10:38	|		10:53	|	
Narangba			|		9:42	|			9:57	10:00	|		10:12	10:15	|		10:27	|		10:42	|		10:57	|	
Dakabin			|		9:46	|			10:01	10:04	|		10:16	10:19	|		10:31	|		10:46	|		11:01	|	
Petrie	9:31		9:44	9:46	9:51	9:59		10:01	10:06	10:09	10:14	10:16	10:21	10:24	10:29	10:31	10:36	10:44	10:46	10:51	10:59	11:01	11:06	11:14	
Lawnton	9:33			9:48				10:03		10:11		10:18		10:26		10:33			10:48			11:03			
Bray Park	9:36			9:51				10:06		10:14		10:21		10:29		10:36			10:51			11:06			
Strathpine	9:38		9:48	9:53	9:55	10:03		10:08	10:10	10:16	10:18	10:23	10:25	10:31	10:33	10:38	10:40	10:48	10:53	10:55	11:03	11:08	11:10	11:18	
Bald Hills	9:41			9:56				10:11		10:19		10:26		10:34		10:41			10:56			11:11			
Carseldine	9:45			10:00				10:15		10:23		10:30		10:38		10:45			11:00			11:15			
Zillmere	9:47			10:02				10:17		10:25		10:32		10:40		10:47			11:02			11:17			
Geebung	9:49			10:04				10:19		10:27		10:34		10:42		10:49			11:04			11:19			
Sunshine	9:51			10:06				10:21		10:29		10:36		10:44		10:51			11:06			11:21			
Virginia	9:53			10:08				10:23		10:31		10:38		10:46		10:53			11:08			11:23			
Northgate	9:56			10:11				10:26		10:34		10:41		10:49		10:56			11:11			11:26			
Wooloowin	10:01		10:12	10:16			10:27	10:31		10:39	10:42	10:46		10:54	10:57	11:01			11:16			11:31			
Bowen Hills	10:06			10:21				10:36		10:44		10:51		10:59		11:06			11:21			11:36			
Exhibition			10:18				10:33				10:48				11:03										

Exhibition			9:35				9:50			10:05			10:20			10:35			10:50			11:05		
Bowen Hills		9:32				9:47				10:02			10:17			10:32			10:47			11:02		
Wooloowin		9:36	9:41		9:45	9:51	9:56			10:06	10:11		10:21	10:26		10:36	10:41		10:51	10:56		11:06	11:11	
Northgate		9:41			9:50	9:56				10:11			10:26			10:41			10:56			11:11		
Virginia		9:43			9:52	9:58				10:13			10:28			10:43			10:58			11:13		
Sunshine		9:44			9:53	9:59				10:14			10:29			10:44			10:59			11:14		
Geebung		9:46			9:55	10:01				10:16			10:31			10:46			11:01			11:16		
Zillmere		9:48			9:57	10:03				10:18			10:33			10:48			11:03			11:18		
Carseldine		9:51			10:00	10:06				10:21			10:36			10:51			11:06			11:21		
Bald Hills		9:54			10:03	10:09			10:15	10:24			10:39			10:54			11:09			11:24		
Strathpine	9:49	9:57	9:57	10:04		10:12	10:12	10:19	10:18	10:27	10:27	10:34	10:42	10:42	10:49	10:57	10:57	11:04	11:12	11:12	11:19	11:27	11:27	
Bray Park		9:59				10:14			10:20	10:29			10:44			10:59			11:14			11:29		
Lawnton		10:02				10:17			10:23	10:32			10:47			11:02			11:17			11:32		
Petrie	9:53	10:05	10:01	10:08		10:20	10:16	10:23	10:26	10:35	10:31	10:38	10:50	10:46	10:53	11:05	11:01	11:08	11:20	11:16	11:23	11:35	11:31	
Dakabin	|		10:06	|			10:21	|	10:31		10:36	|		10:51	|		11:06	|		11:21	|		11:36
Narangba	|		10:10	|			10:25	|	10:35		10:40	|		10:55	|		11:10	|		11:25	|		11:40
Burpengary	|		10:14	|			10:29	|	10:39		10:44	|		10:59	|		11:14	|		11:29	|		11:44
Morayfield	|		10:19	|			10:34	|	10:44		10:49	|		11:04	|		11:19	|		11:34	|		11:49
Caboolture	10:09		10:22	10:24			10:37	10:39	10:47		10:52	10:54		11:07	11:09		11:22	11:24		11:37	11:39		11:52	
Elimbah	10:16			10:31				10:46	10:54			11:01			11:16			11:31			11:46			
Beerburrum	10:21			10:36				10:51	10:59			11:06			11:21			11:36			11:51			
Glass House Mountains	10:29			10:44				10:59	11:07			11:14			11:29			11:44			11:59			
Beerwah	10:34	10:38		10:49				11:04		11:08	11:12	11:19		11:27	11:34	11:38		11:49			12:04			
Landsborough		10:43								11:13	11:17			11:32		11:43								
Mooloolah		10:49								11:19	11:23			11:38		11:49								
Eudlo		10:56								11:26	11:30			11:45		11:56								
Palmwoods		11:02								11:32	11:36			11:51		12:02								
Woombye		11:06								11:36	11:40			11:55		12:06								
Nambour		11:11								11:41	11:45			12:00		12:11								
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Eumundi		11:27									12:01			12:16		12:27								
Cooroy		11:33									12:07			12:22		12:33								
Pomona		11:41									12:15			12:30		12:41								
Cooran		11:48									12:22			12:37		12:48								
Traveston		11:54									12:28			12:43		12:54								
Gympie North		12:12									12:46			13:01		13:12								

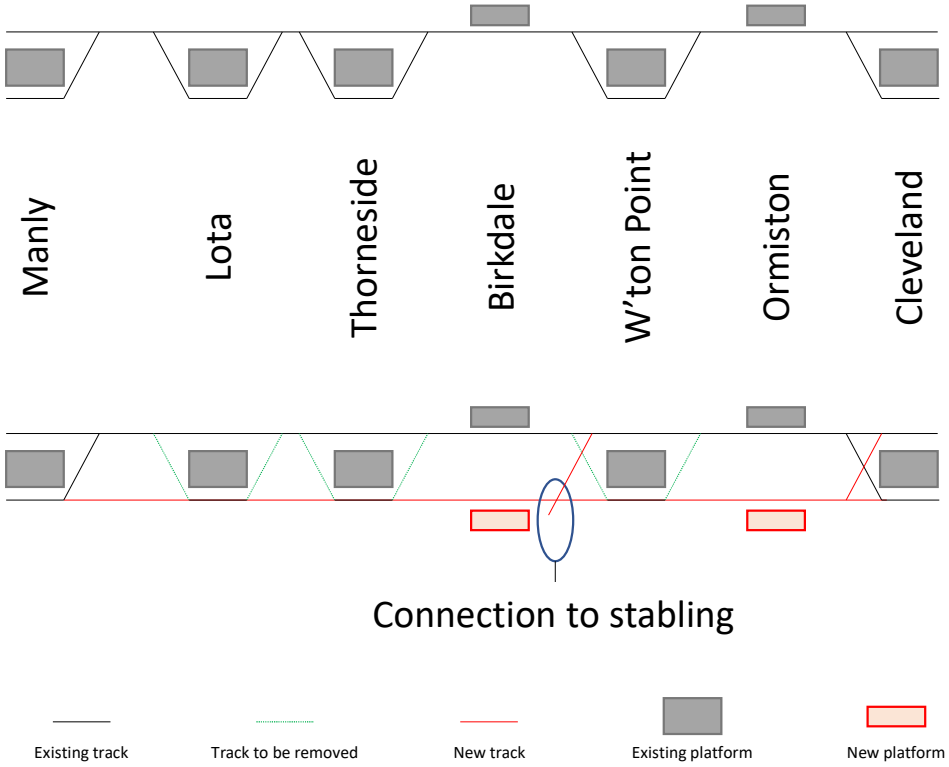
Corinda	9:04	9:12	9:19	9:34	9:49	10:04	10:19	10:34
Sherwood	9:06	9:14	9:21	9:36	9:51	10:06	10:21	10:36
Graceville	9:08	9:16	9:23	9:38	9:53	10:08	10:23	10:38
Chelmer	9:10	9:18	9:25	9:40	9:55	10:10	10:25	10:40
Indooroopilly	9:12	9:20	9:27	9:42	9:57	10:12	10:27	10:42
Taringa	9:14	9:22	9:29	9:44	9:59	10:14	10:29	10:44
Toowong	9:17	9:25	9:32	9:47	10:02	10:17	10:32	10:47
Auchenflower	9:19	9:27	9:34	9:49	10:04	10:19	10:34	10:49
Milton	9:21	9:29	9:36	9:51	10:06	10:21	10:36	10:51
Roma Street	9:24	9:32	9:39	9:54	10:09	10:24	10:39	10:54

Roma Street	9:29	9:44	9:59	10:02	10:14	10:29	10:44	10:59
Milton	9:32	9:47	10:02	10:05	10:17	10:32	10:47	11:02
Auchenflower	9:34	9:49	10:04	10:07	10:19	10:34	10:49	11:04
Toowong	9:36	9:51	10:06	10:09	10:21	10:36	10:51	11:06
Taringa	9:39	9:54	10:09	10:12	10:24	10:39	10:54	11:09
Indooroopilly	9:41	9:56	10:11	10:14	10:26	10:41	10:56	11:11
Chelmer	9:43	9:58	10:13	10:16	10:28	10:43	10:58	11:13
Graceville	9:45	10:00	10:15	10:18	10:30	10:45	11:00	11:15
Sherwood	9:47	10:02	10:17	10:20	10:32	10:47	11:02	11:17
Corinda	9:49	10:04	10:19	10:22	10:34	10:49	11:04	11:19

Appendix Two - programme and projects

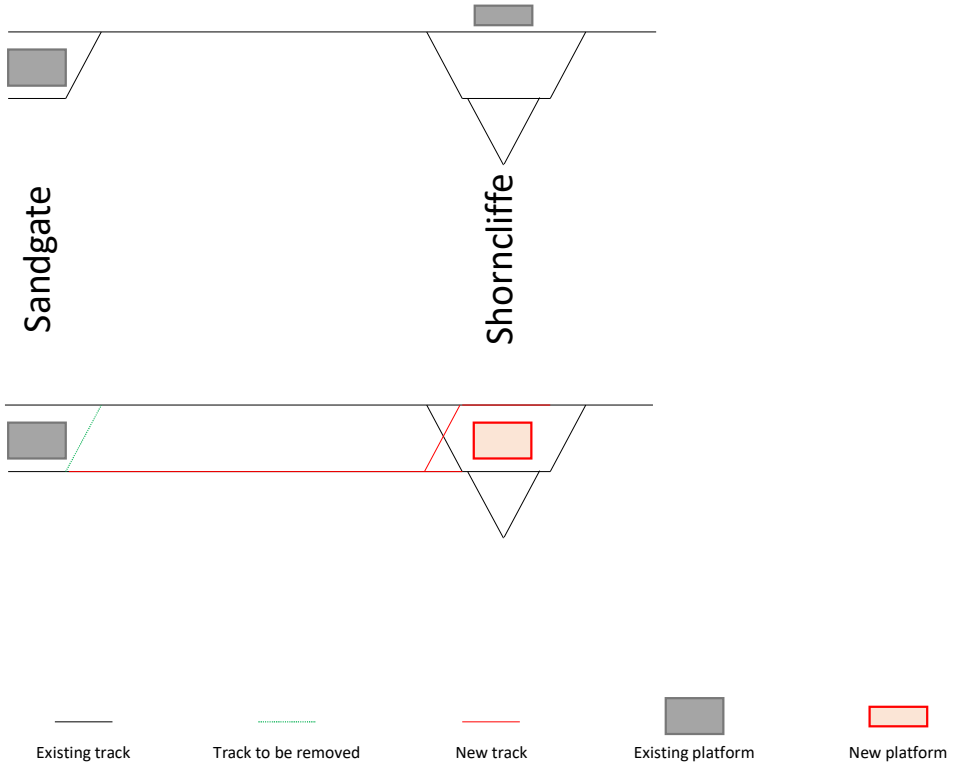
Phase	Project ID	Project title	Prerequisite(s)	Stageable?	Outcome
Phase Zero - current opportunities					
	CL1	Cleveland line duplication	None	Yes	Capacity, reliability, travel time
	SL1	Shorncliffe line duplication	None	No	Capacity, reliability, travel time
	IS1	Park Road reconfiguration	None	No	Reliability
	IS2	South Brisbane area turnbacks	None	No	Capacity
	SCx	Sunshine Coast duplication and platform faces	None	Yes	Capacity, reliability, travel time
Phase One - altered Cross River Rail					
	CR1	Cross River Rail - Mayne to Park Road	IS1, IS2	No	Capacity, urban development
	IN1	Wooloowin platform duplications	None	No	Capacity, reliability
	IN2	Northgate platform duplications	None	No	Capacity, reliability
	GC1	Extension to Coolangatta	CR1	Yes	Network connectivity
Phase Two - long tunnel					
	CR2	Cross River Rail - Park Road to Yeerongpilly	CR1	No	Capacity, travel time
	BL1	Yeerongpilly to Salisbury fourth tracking	None	No	Capacity, reliability, sectorisation, travel time
	BL2	Beenleigh to Kuraby fourth tracking	None	Yes	Reliability, travel time
	FL1	Salisbury to Beaudesert line	CR2, BL1	Yes	Urban development, network connectivity
Phase Three - Trouts Road Corridor					
	CR3	Cross River Rail - Roma Street to Strathpine	CR1, ON1	No	Capacity, reliability, network connectivity, travel time, urban development
	ON1	Strathpine to Petrie fourth tracking	None	No	Capacity, reliability, sectorisation, travel time
	ML1	Maroochydore Rail Line - Beerwah to Maroochydore	CR3, ON1	Yes	Urban development, network connectivity
	IN3	Airport grade separation	IN1	No	Capacity, reliability, network connectivity
Phase Four - Clevewich line					
	WL1	Corinda to Darra fourth track	None	No	Capacity, reliability, sectorisation
	WE1	Milton to Roma Street tunnel	WL1	No	Capacity, reliability, sectorisation
	WE2	Roma Street to Cannon Hill tunnel	WE1	Possible	Capacity, reliability, network connectivity, travel time, urban development

CL1 – Cleveland line duplication



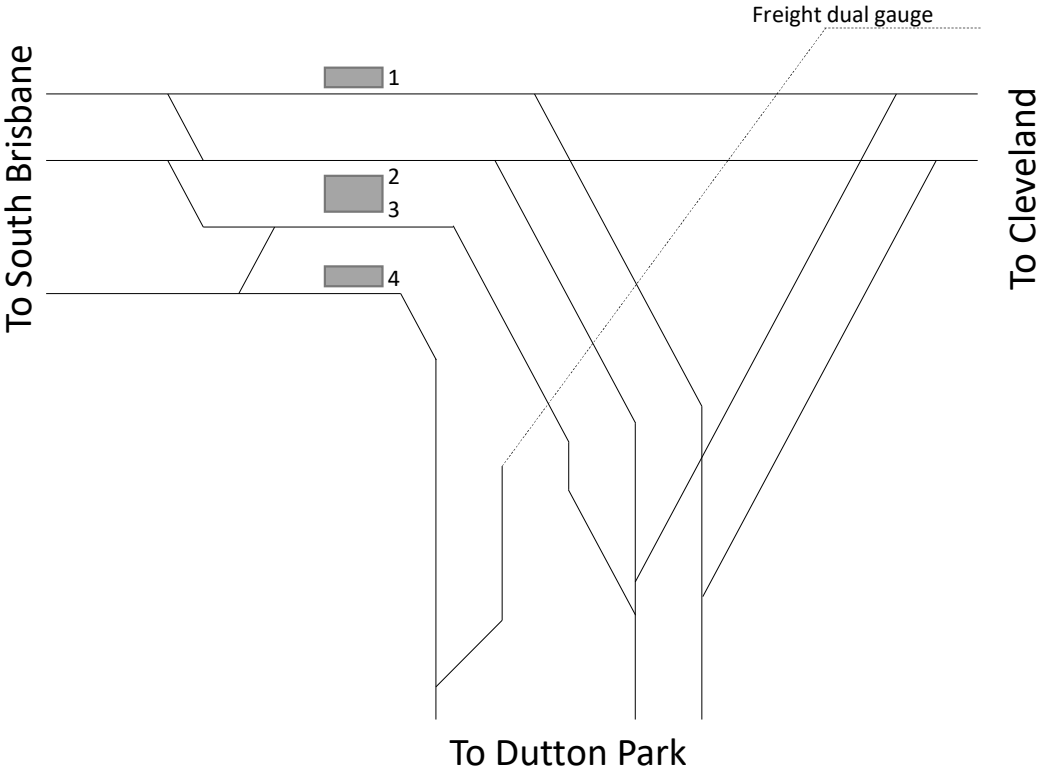
- Duplication from Manly to Cleveland
- Approximately 13.2km of second track; two side platforms
- Provision for Birkdale stabling connection
- Scissor crossover at Cleveland
- Stageable – first stage Birkdale to Cleveland

SL1 – Shorncliffe line duplication



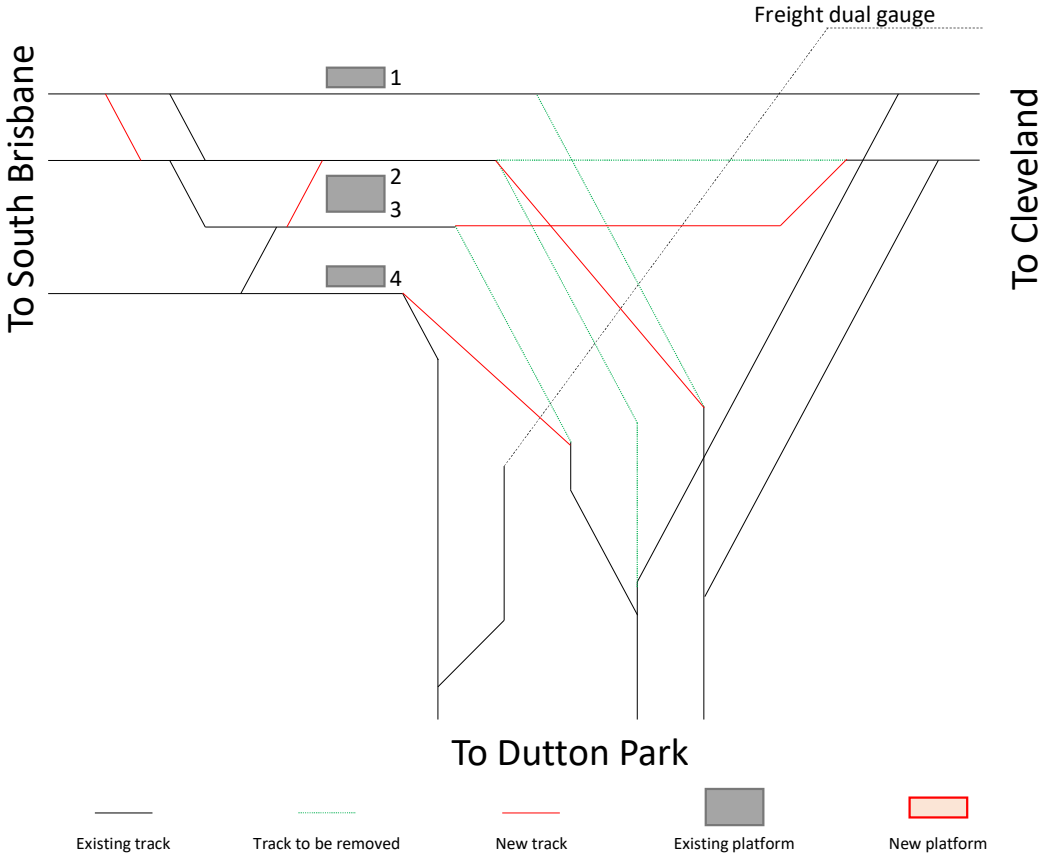
- Duplication from Sandgate to Shorncliffe
- Approximately 1.2km of duplicated track
- Likely require track and platform rebuilding to preserve angle functionality
- Scissor crossover at Shorncliffe

IS1 – Park Road reconfiguration



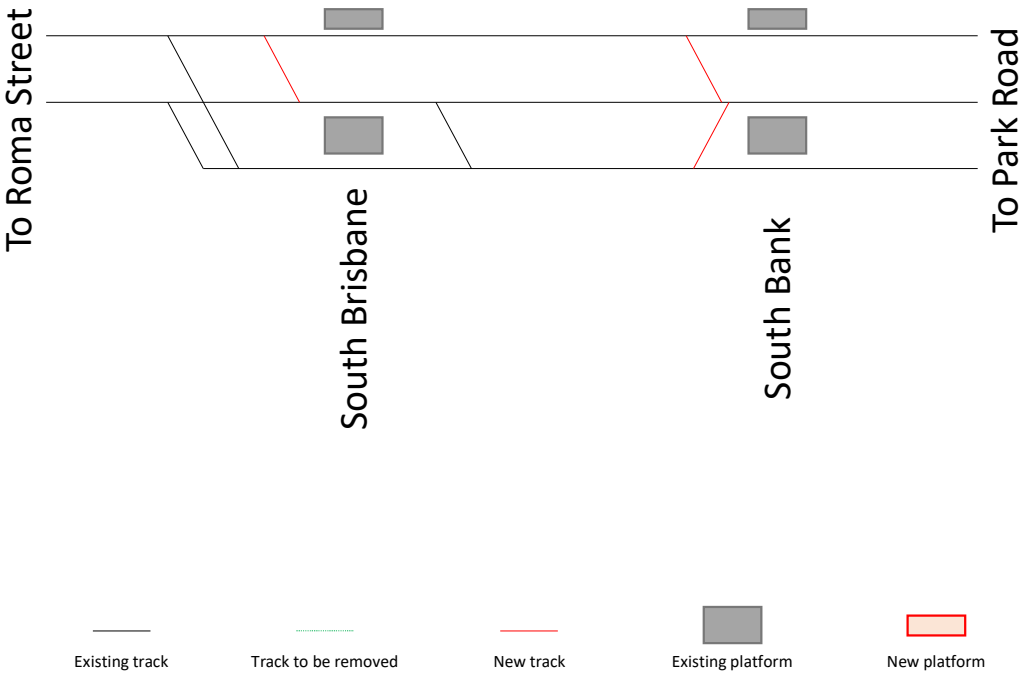
- Realignment of tracks through Park Road to enable turnbacks and reduce the impact of crossing conflicts
- Configuration change also allows the dual gauge track to be kept clear of passenger services once the long tunnel is open

IS1 – Park Road reconfiguration (cont'd)



- Outbound Cleveland line via platform 1; inbound Cleveland realigned via platform 3
- Outbound Beenleigh line via platform 2 to the Up track; inbound Beenleigh via Down track to platform 4 underneath the flyover
- Turnback possible on platforms 2 and 3 during Phase One

IS2 – South Brisbane area turnbacks

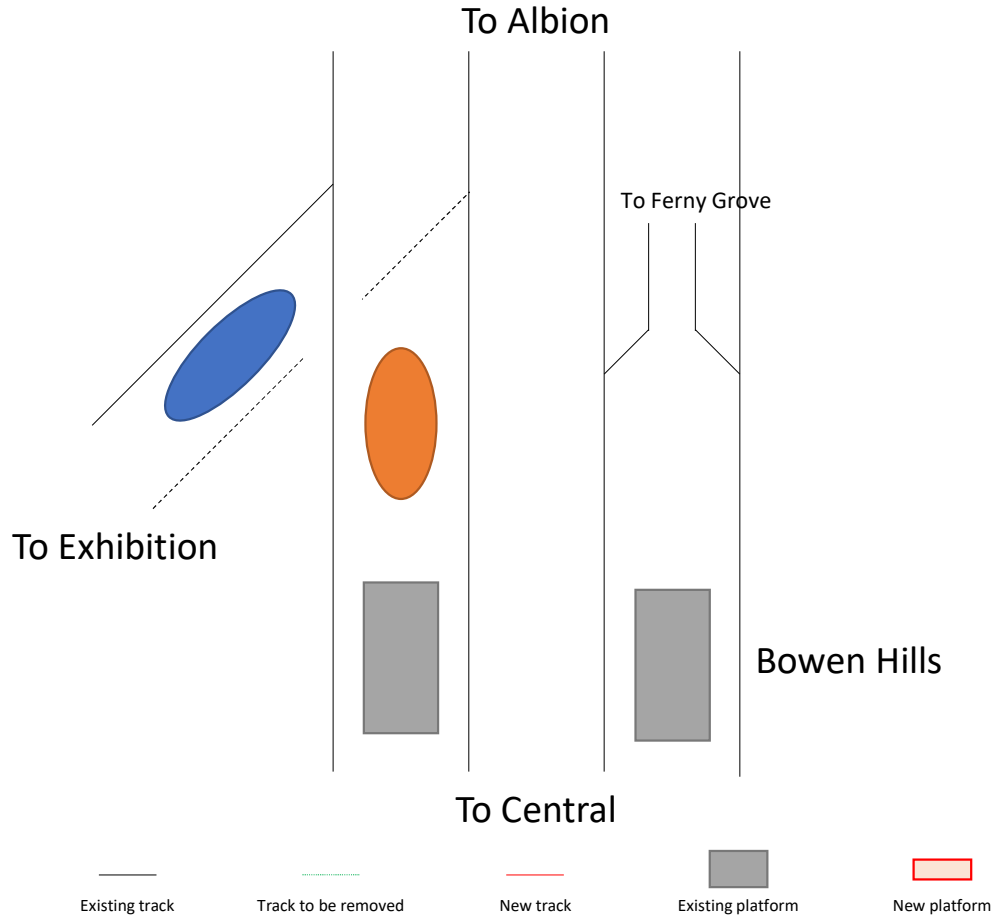


- Addition of three crossovers to allow the middle platform at each station to be used as a turnback
- Signalling changes likely needed to facilitate turnback functionality

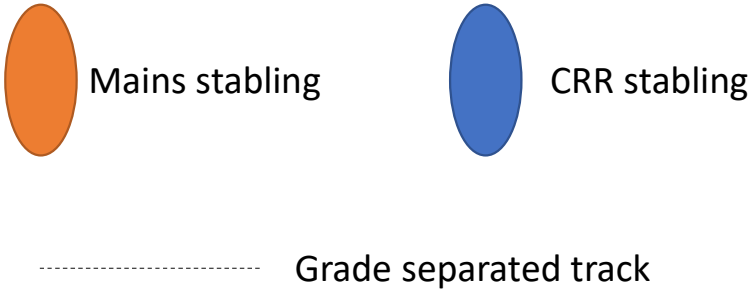
SCx – Sunshine Coast duplication and platforms

- Subject to further analysis with freight requirements
- Likely a suite of partial duplications and additional platform faces
- Minimum of two platforms at all stations south of Nambour, as well as Yandina and Cooran

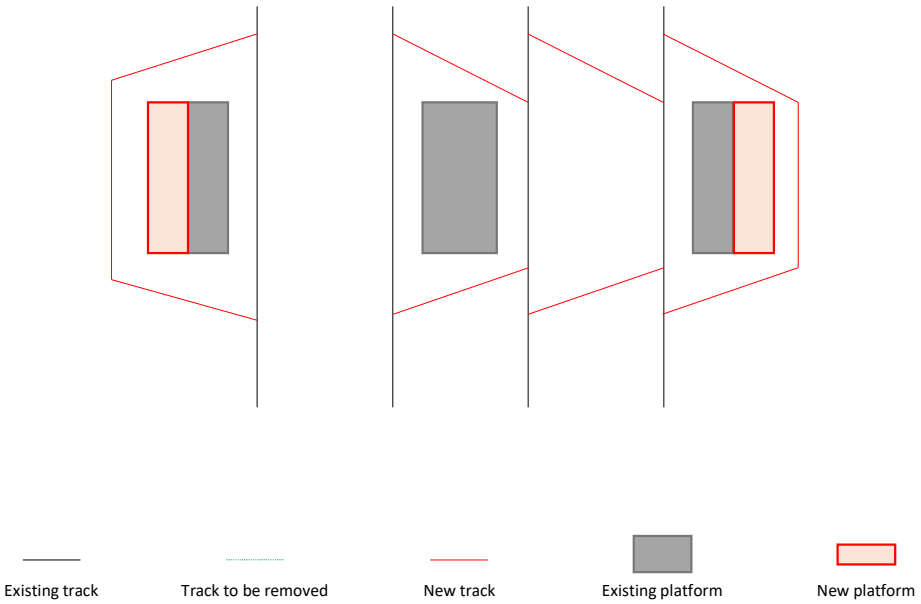
CR1 – Modified CRR – Mayne to Park Road



- As per current design, with tunnel stubs at Park Road and Roma Street station, and reconfigured Mayne yard and northern connection

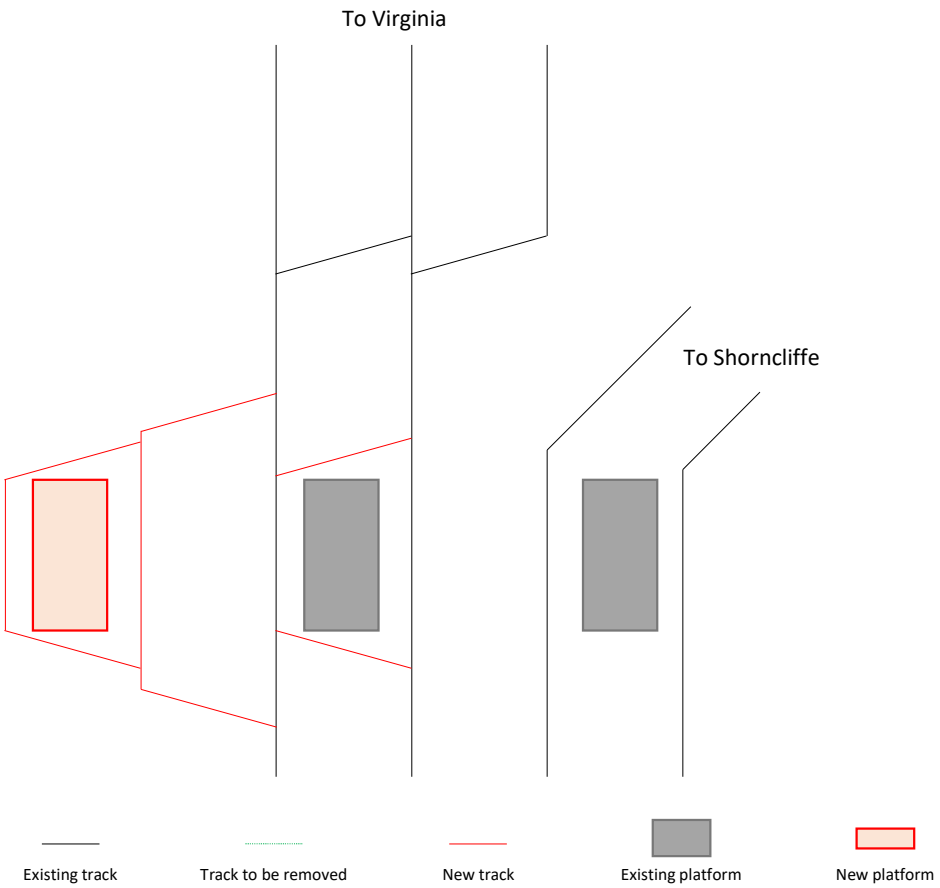


IN1 – Wooloowin platform duplications



- Addition of two platform faces and track realignments
- Creates an island platform for each direction on the Mains, and an island platform for the Suburbans (one platform face each direction)
- Lower cost option would be to create a fifth bi-directional platform for the Mains only

IN2 – Northgate platform duplications

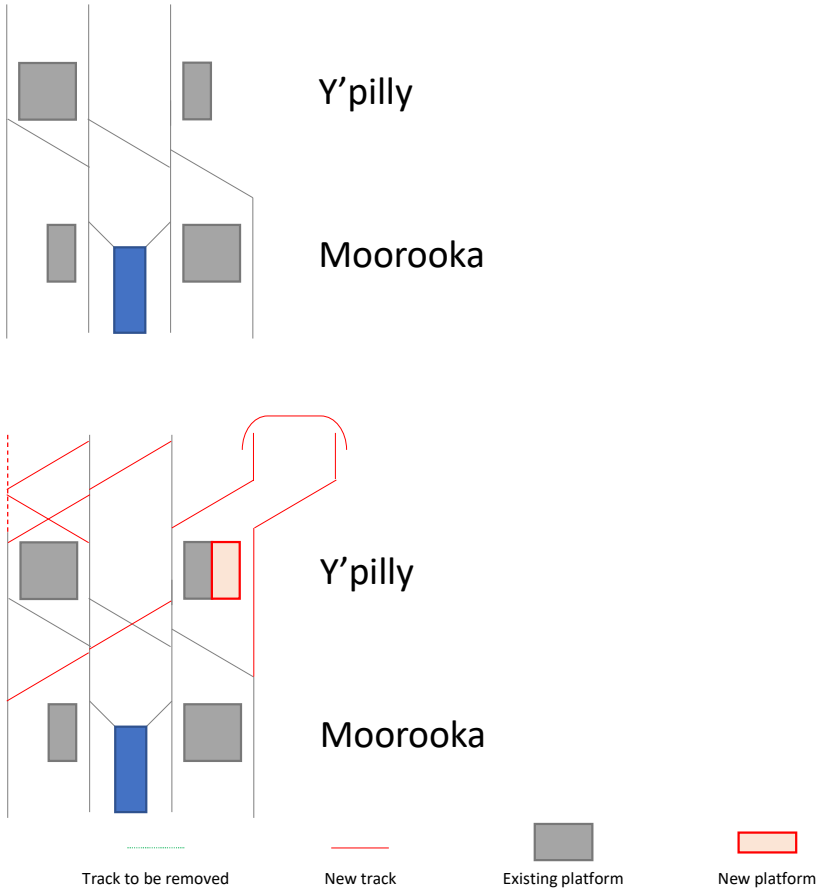


- Addition of another island platform to create four platforms for the Mains
- Lower cost option would be to provide only a fifth bi-directional platform
- NB: simplified trackwork shown excluding the cross sector arrangement which would be subject to review

GC1 – Extension to Coolangatta

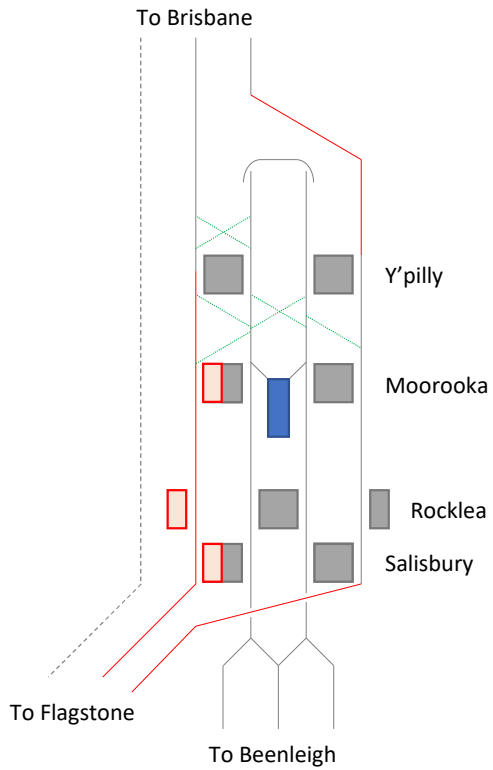
- Extension of Gold Coast line to Coolangatta Airport
- Route and stations subject to further investigation
- Provision at Coolangatta Airport to allow interchange between Gold Coast Light Rail, as well as any future NSW public transport provision

CR2 – CRR extended Park Road to Yeerongpilly



- Extends Cross River Rail to Yeerongpilly
- Allows the dual gauge to be dedicated to freight between Yeerongpilly and Park Road, with the option of extending segregation to Salisbury at this point
- Must be configured to allow BL1 to be delivered

BL1 – Yeerongpilly to Salisbury fourth track

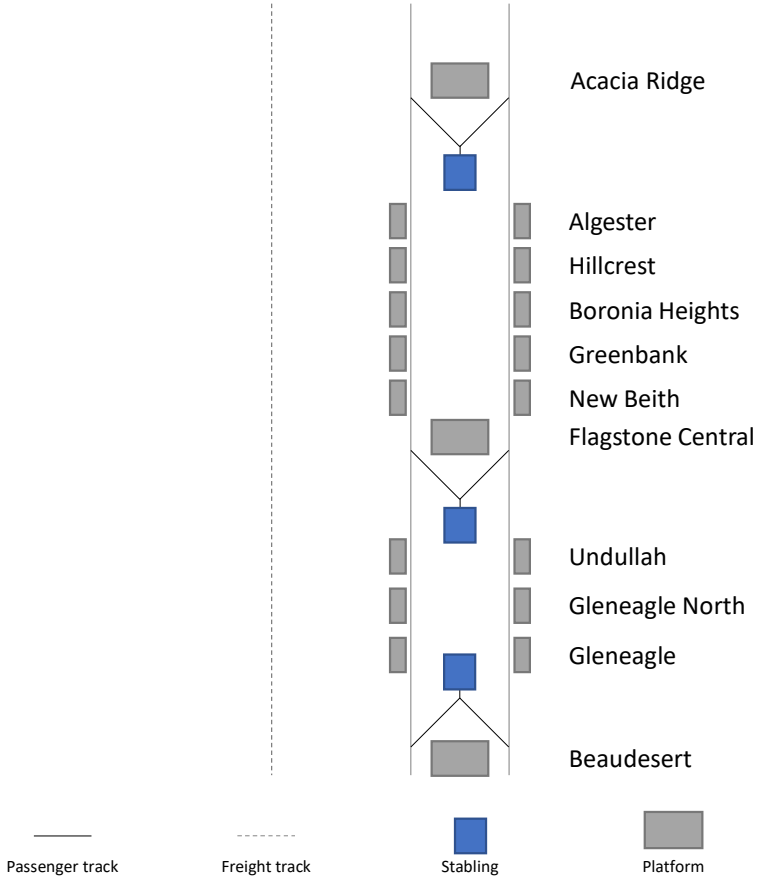


- Four tracks and supporting platform infrastructure to extend the CRR sector to Salisbury
- Creates Up-Up-Down-Down operation
- Approximately 4km of new track and three new platform faces
- Flyover and turnback infrastructure near Acacia Ridge required to extend local services

BL2 – Kuraby to Beenleigh fourth tracking

- Fourth tracking between Kuraby and Beenleigh
- Alignment to be determined based on further analysis – option for in-corridor or new alignment via the M1
- Four platform faces at Beenleigh and Kuraby, configured as island platforms in Up-Up-Down-Down configuration

FL1 – Salisbury to Beaudesert line

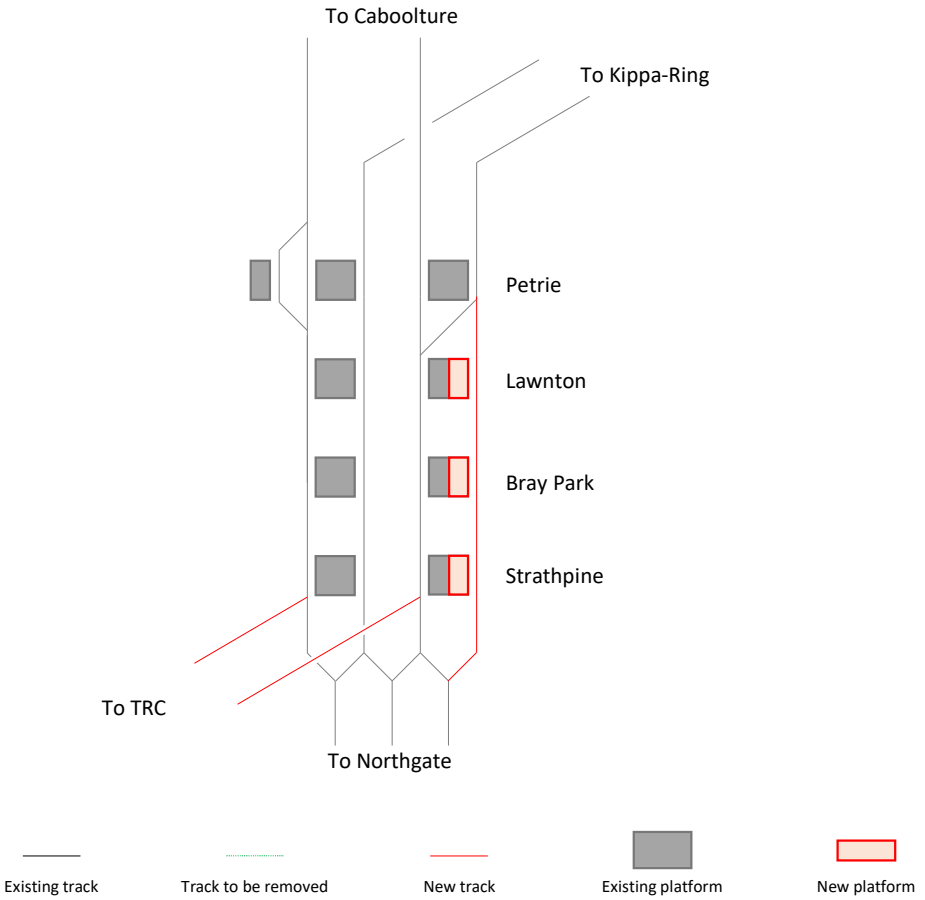


- New corridor from Salisbury to Beaudesert
- Staging may include a first stage to Acacia Ridge to segregate Suburbans and Cross River Rail sector through to Salisbury
- Second stage may extend to Flagstone
- Stabling to be developed progressively as line extended

CR3 – CRR Roma Street to Strathpine

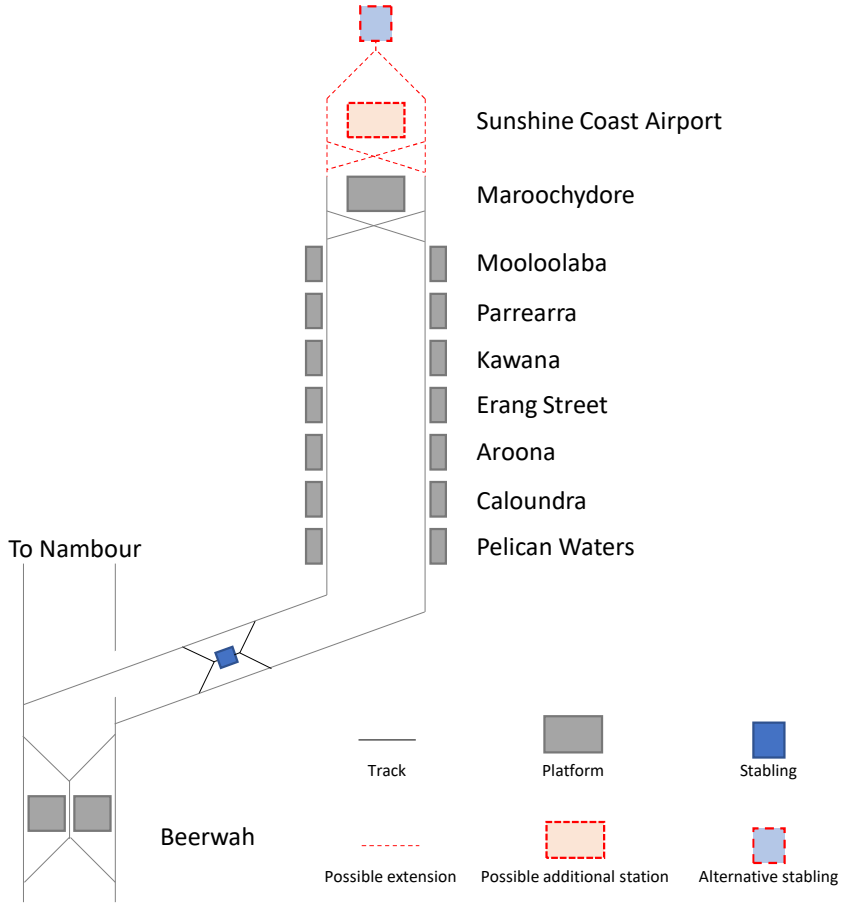
- Development of Trouts Road Corridor
- Alignment and station selection subject to further detailed analysis
- Interchange station with Ferny Grove line at Enoggera
- Tie-in to ON1 fourth tracking between Petrie and Strathpine

ON1 – Petrie to Strathpine fourth tracking



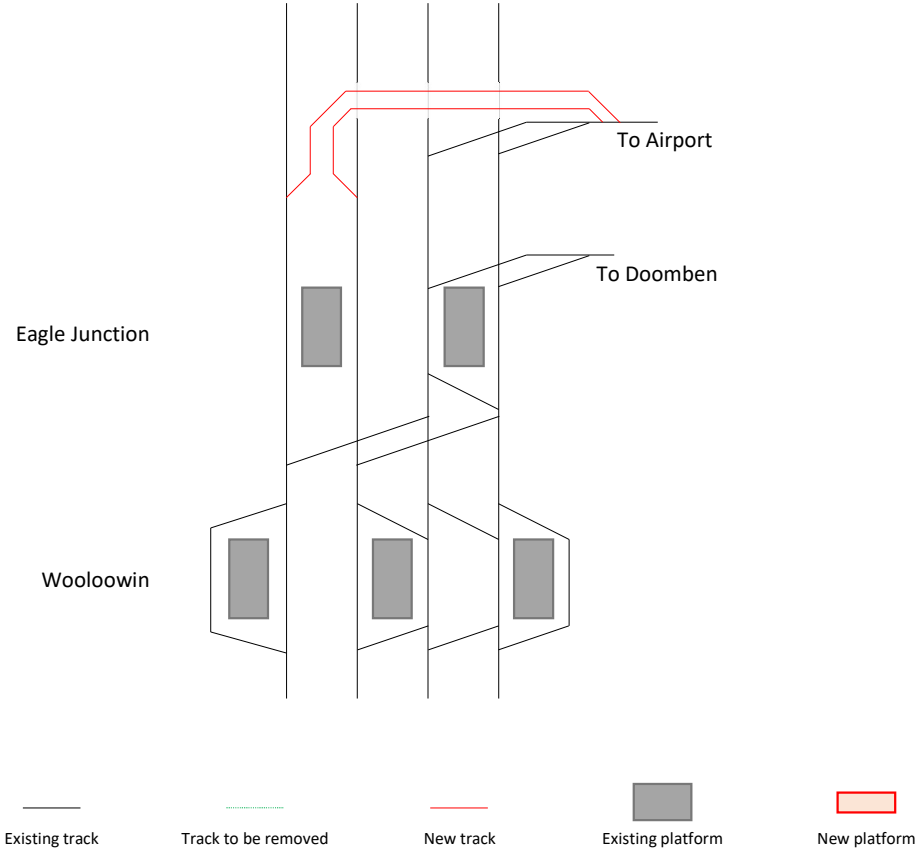
- Four tracking and three additional platform faces
- Approximately 3.5km of new track
- Flyover constructed at Strathpine
- Up-Up-Down-Down configuration to maximise transfer efficiency and facilitate freight movements

ML1 – Maroochydore Rail Line



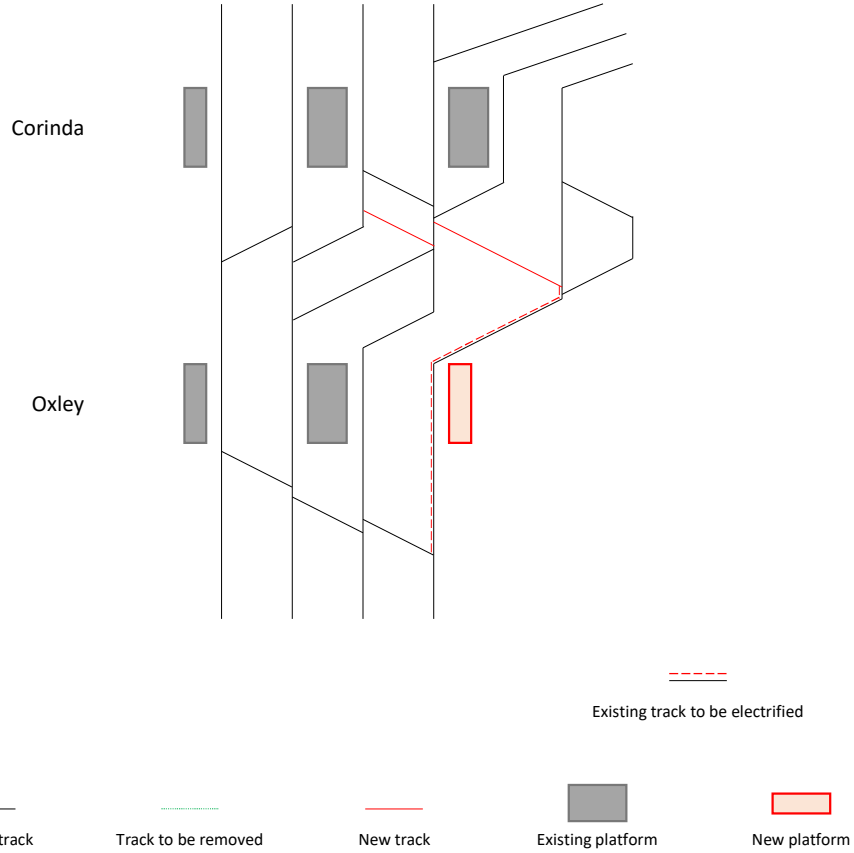
- New line connecting Caloundra and Maroochydore to the Sunshine Coast line at Beerwah
- Potential to extend to the airport, which could allow a more effective stabling location
- Grade separated junction with the North Coast Line and customer-centric Beerwah station layout and operation

IN3 – Airport grade separation to Mains



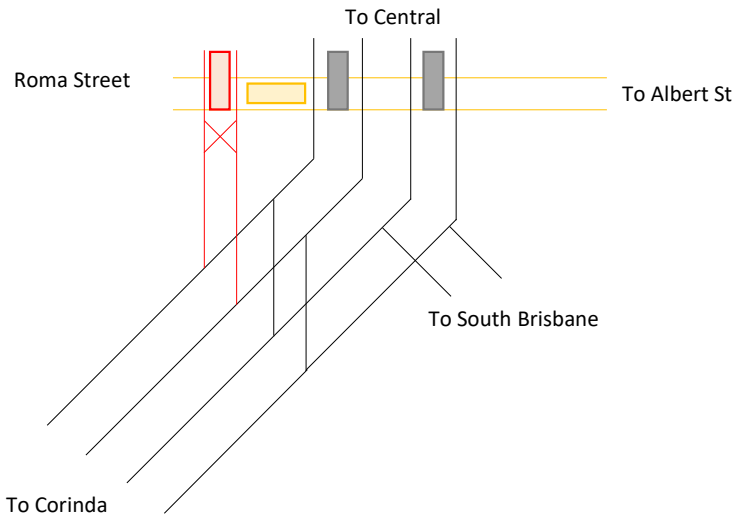
- Grade separation from Mains to Airport line
- Removes the crossing conflict and allows the Airport to serve Exhibition and CRR
- Makes use of the additional platform faces at Wooloowin to enable higher throughput and merging of two corridors

WL1 – Corinda to Darra fourth track

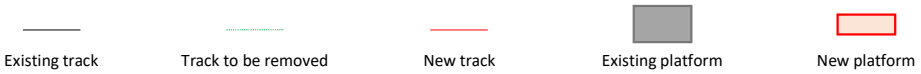


- Electrification of fourth track and construction of platform face at Oxley
- Facilitates segregation of Ipswich and Springfield services in preparation for Clevewich line tunnel at Milton

WE1 – Milton to Roma Street tunnel



*NB Roma Street platforms shown for illustration only



- Separation of the Western Mains from Suburbans before Roma Street
- Exact location subject to investigation – likely to required dive between Toowong and Auchenflower
- Extension provision through to Cannon Hill to create the Clevewich line sector

WE2 – Roma Street to Cannon Hill tunnel

- Extension of WE1 to Cannon Hill to create the Clevewich line sector
- Exact route and number of stations subject to investigation and optimisation