

Appendix 5

Impact of Metropolitan Network Constraints on West Moreton Network Capacity

May 2015



Table of Contents

1.	Purpose of assessment	3
2.	Methodology for calculating capacity impact.....	3
2.1	Theoretical capacity	4
2.2	Passenger peak period impacts	7
2.3	Maintenance impacts.....	14
2.4	Summary of total impact	16

1. Purpose of assessment

As part of its 2015 DAU, Queensland Rail has proposed that, consistent with previous practice, a reduction will be applied to the allocation of pre-1995 asset values to coal services to reflect the impact on West Moreton Network capacity due to Metropolitan Network constraints.

This Appendix sets out details of the methodology used by Queensland Rail to determine this capacity impact.

2. Methodology for calculating capacity impact

There is general consensus from stakeholders that the most appropriate way to assess the impact of the Metropolitan Network is to analyse the capacity of the West Moreton Network with and without the constraints imposed by passenger services in the Metropolitan Network.

Capacity assessments can be undertaken based on either a theoretical or an operational view of capacity. The theoretical capacity of a rail line reflects the maximum number of train paths that can be scheduled on the railway (which can be assessed either before or after allowance is made for maintenance closures), while the operational capacity of the rail line takes account of the fact that a robust rail system will not operate train services on all available paths given the need to maintain some 'reserve paths' to recover from operational variability and unplanned events.

Historically, Queensland Rail has sought to assess the extent to which metropolitan constraints influenced West Moreton Network capacity based on analysis of time periods where coal and freight services were restricted from operations through the Metropolitan Network. However, given the level of debate about the reasonableness of Queensland Rail's assessment of the times that coal and freight services could not operate, Queensland Rail has altered its approach to a detailed path based assessment, which focuses on identifying the specific paths that are able to be scheduled through the Metropolitan Network. However, when undertaking this type of path based analysis, trying to assess the specific impact on operational capacity is problematic, as it is not possible to definitively identify whether certain paths are scheduled as unused due to Metropolitan Network constraints or whether they are held in reserve to ensure operational robustness of the West Moreton Network. In fact, it is Queensland Rail's view that, from an operational perspective, the real impact of the metropolitan constraints is negligible, as the paths that are sterilised due to the Metropolitan Network can effectively be used as the reserve paths (noting that reserve paths would still be required regardless of the Metropolitan Network constraints).

The QCA's consultant, B&H, noted that the most robust way of assessing the capacity impact of the Metropolitan Network would be through undertaking dynamic simulation, extended over a long period. However, noting that this form of analysis is not currently available, considered that the most rigorous available approach is to assess the impact of the Metropolitan Network on the theoretical capacity of the West Moreton Network – that is, the maximum number of train paths that can be scheduled on the railway.

Queensland Rail notes that dynamic simulation can be very useful in confirming operating capacity. In the context of the central Queensland network, where train services operate on a cyclic basis with substantial daily variation in train origins and destinations, we believe that

dynamic simulation is essential in assessing operating capacity. However, in a timetabled system – such as the Metropolitan and West Moreton Networks – the role of dynamic simulation is more to test the robustness of the timetable given reasonably anticipated operational variability. In this context, Queensland Rail is very confident that its timetable, including the identified paths through the Metropolitan Network for coal and freight trains, is robustly operable. This simply reflects that Queensland Rail has been operating to this timetable for a significant time period. As a result, while dynamic simulation may provide some additional support for Queensland Rail’s assessment of operational capacity, Queensland Rail does not think that it is essential in order to demonstrate the capacity impact of Metropolitan Network constraints.

Further, the QCA’s consultant B&H has advised Queensland Rail that it is satisfied that a theoretical capacity analysis will be an acceptable approach to demonstrate the capacity impact on the West Moreton Network.

In the QCA’s consultation on this issue, stakeholders have expressed a range of views on the extent to which the Metropolitan Network limits the available capacity on the West Moreton Network, however little evidence has been provided to support their assertions. Therefore, for the 2015 DAU, Queensland Rail has prepared a range of train diagrams in order to unequivocally demonstrate the extent to which the Metropolitan Network constrains West Moreton Network theoretical maximum capacity.

2.1 Theoretical capacity

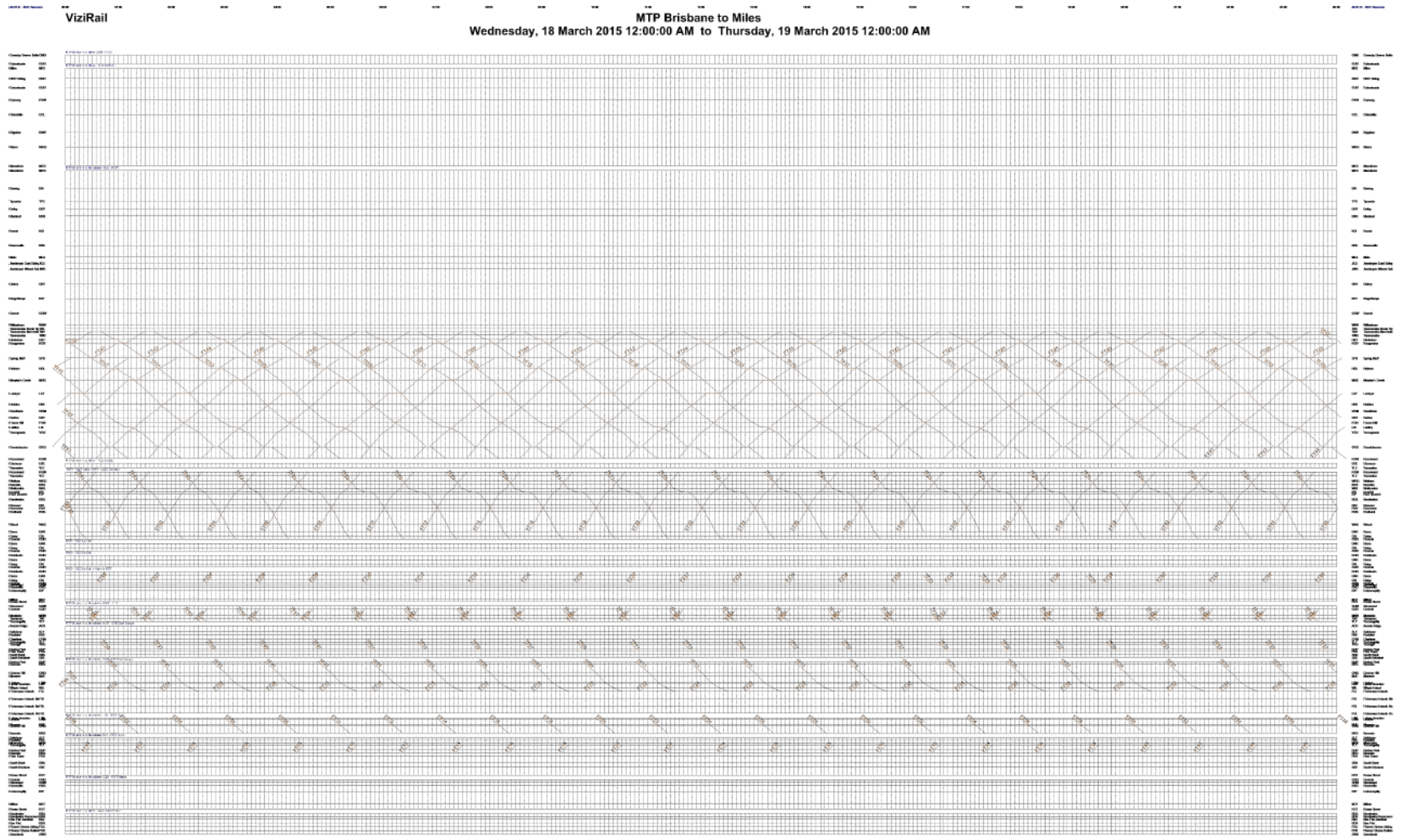
The theoretical capacity of the West Moreton Network (excluding Metropolitan Network impacts) is assessed based on a rounded 30 minute run time for the longest section. While the precise running time of the longest section on the Toowoomba range is 26.5 minutes, given the variability in speed profiles of trains, it is considered that a scheduling interval of 30 minutes reflects a realistic and practical approach. This remains unchanged from Queensland Rail’s previous analyses, and was accepted as the appropriate approach by the QCA’s consultant, B&H.¹

This gives a maximum number of one way paths that can be scheduled on the West Moreton Network in a 24 hour period as 48, with a maximum of 336 one way paths able to be scheduled in a one week period. This is demonstrated on Figure 1, which illustrates the 48 one way paths (24 loaded and 24 unloaded) that are available on the West Moreton Network alone over 24 hours. (Note, the diagram shows the available paths from Fisherman Islands to Toowoomba, as these are the critical areas of the route from a capacity planning perspective.)²

¹ B&H Report for consultation paper, Appendix 3,

² Note, all train diagrams shown in this Appendix can be separately provided as high resolution PDF documents on request.

Figure 1 Available paths on West Moreton Network (no passenger services)



Weekday Capacity without Metro Passenger services

To be deducted from this is the paths that are eliminated due to the closure of the track for maintenance or capital works. From a capacity planning perspective, Queensland Rail considers that 19 hours per week is a reasonable expectation of the track possessions required for maintenance in the West Moreton Network. Queensland Rail notes that this assumption was accepted by the QCA's consultant, B&H.

Based on this, the theoretical capacity (after maintenance) of the West Moreton Network is:

Table 1 West Moreton theoretical capacity (after maintenance)

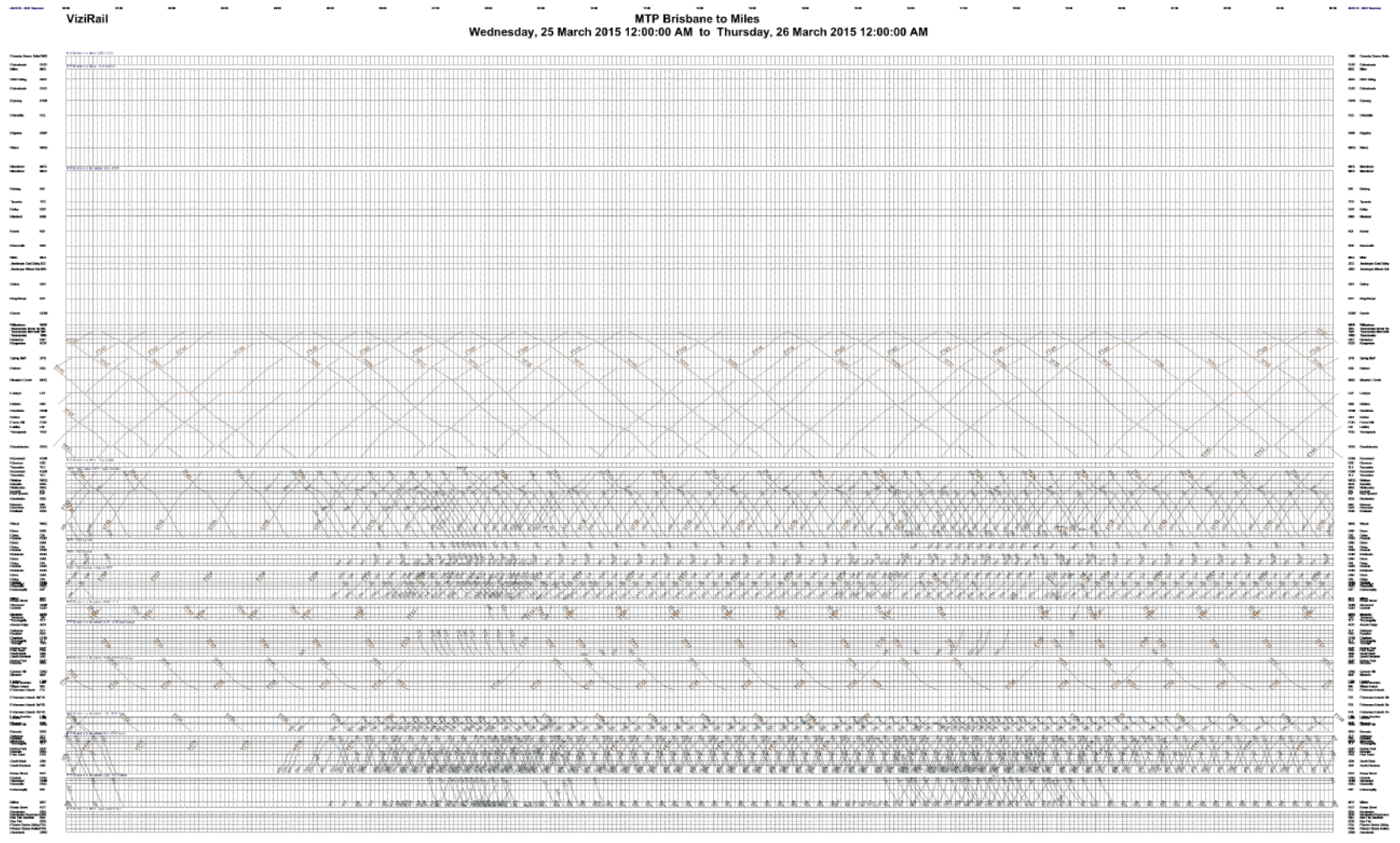
	One-way paths/week
West Moreton total theoretical capacity	336
West Moreton maintenance closures	38
West Moreton theoretical capacity (after mtce)	298

2.2 Passenger peak period impacts

The Metropolitan Network operates as a timetabled system, so it is a reasonably straightforward process to assess the number of paths that Queensland Rail can theoretically schedule on the West Moreton Network and then overlay this onto the passenger timetable to assess which paths are unable to be used due to conflicts with metropolitan passenger peaks.

Figure 2 shows that, based on the current weekday passenger timetable, there are 42 one way paths (21 loaded and 21 unloaded) that can be scheduled over the West Moreton Network each day including linkages to/from Port of Brisbane. This reflects a loss of 3 loaded and 3 unloaded paths, due to the inability to link West Moreton paths with a continuous path through the Metropolitan Network. Of these, 2 loaded and 1 unloaded paths are lost in the morning peak period and 1 loaded and 2 unloaded paths lost in the evening peak period. This diagram confirms the analysis described in Queensland Rail's response to the QCA's 2014 consultation paper, which concluded that only 3 loaded and 3 unloaded services per weekday were unable to operate due to conflicts with timetabled passenger services.

Figure 2 Available paths on West Moreton Network with Metropolitan passenger services (weekday timetable)



Weekday Capacity with Metro Passenger services

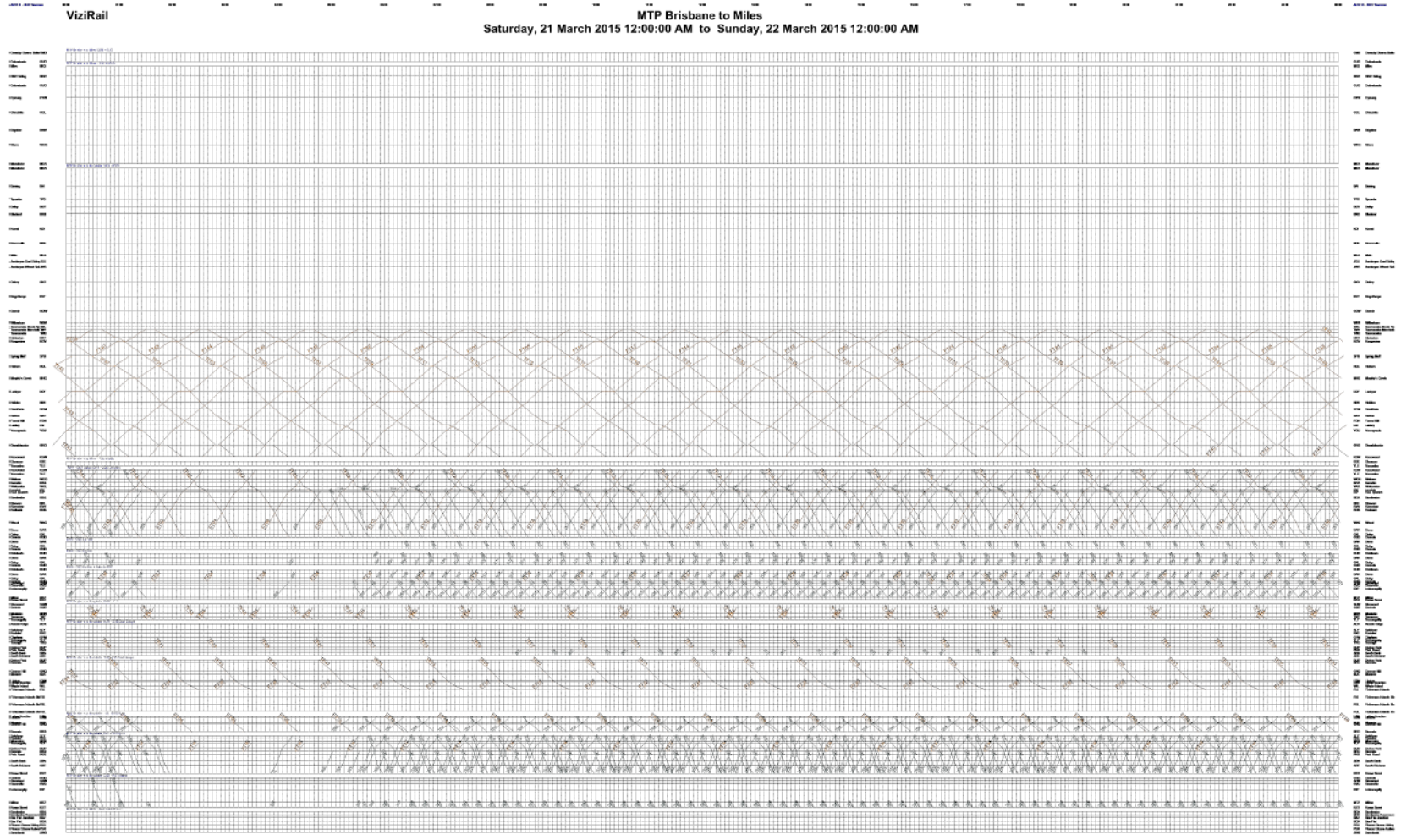
This diagram demonstrates that, notwithstanding the concerns identified by New Hope in relation to the effect of the mobilisation of passenger trains before and after the peak periods, the 'shoulder' periods do not prevent the scheduling of West Moreton services through the Metropolitan Network. Therefore, New Hope's claims that the length of the peak periods should be extended to include the time required for fleet mobilisation are unfounded.

Further, the diagram shows that, although at times, the time period between trains may vary by more or less than an hour (particularly through the Metropolitan Network), contrary to the concern raised by B&H in its report to the QCA, this variability does not in fact cause an overall loss in available paths. While it is vital that, at the critical section, trains running in the same direction operate at an interval of one hour, this interval does not need to be perfectly maintained along all sections of their journey. It may be the case that one train is delayed at some point in its journey, but the following train is not delayed at the same point, meaning that the subsequent train will then be running at a closer interval. Provided that all trains are able to operate on a linked path through the West Moreton and Metropolitan Networks, then variability in train intervals does not in itself cause a loss in theoretical capacity.

Figure 3 shows that, based on the Saturday passenger timetable, the full 48 West Moreton Network paths can be scheduled through the Metropolitan Network on a standard weekend day. The Sunday passenger timetable includes some further reduction in passenger services, and similarly allows for the full 48 West Moreton Network paths to be scheduled.³

³ The Sunday train diagram can be provided to the QCA on request

Figure 3 Available capacity on West Moreton Network with metropolitan passenger services (Saturday timetable)



As can be seen from these diagrams, over the period of a week, the reductions to theoretically available paths due to scheduling conflicts with passenger services are 15 loaded and 15 unloaded paths per week, giving a total loss of 30 one way paths.

Consistent with this analysis of theoretical capacity, in the operational environment Queensland Rail does schedule a limited number of coal and freight services to operate during the morning and afternoon peak periods. Figures 4 and 5 show Queensland Rail's current MTP train schedule for two consecutive days (Wednesdays and Thursdays). It can be seen that, on Thursdays, Queensland Rail schedules a coal service on the TF27 path during the afternoon peak. On Wednesdays, Queensland Rail schedules a loaded coal service on the TF01 path, just prior to the morning peak. While Queensland Rail does not routinely schedule empty coal services on the FT12 path through the morning peak, this can occur if required. Further, this path is certainly used in the event that a train scheduled on the earlier path is delayed – that is, it is treated primarily as a reserve path retained for operational robustness.

Figure 4 Current Wednesday Master Train Plan

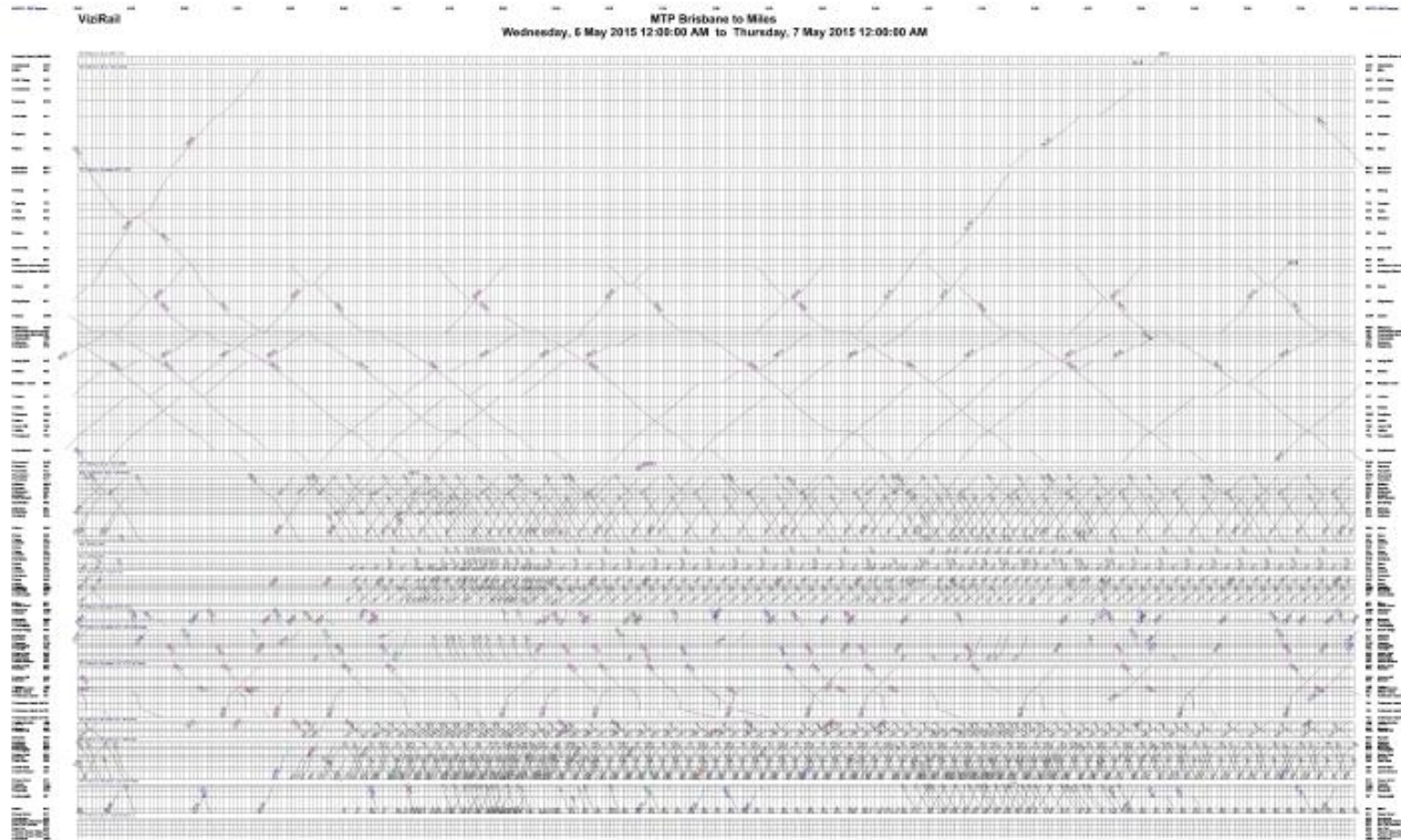
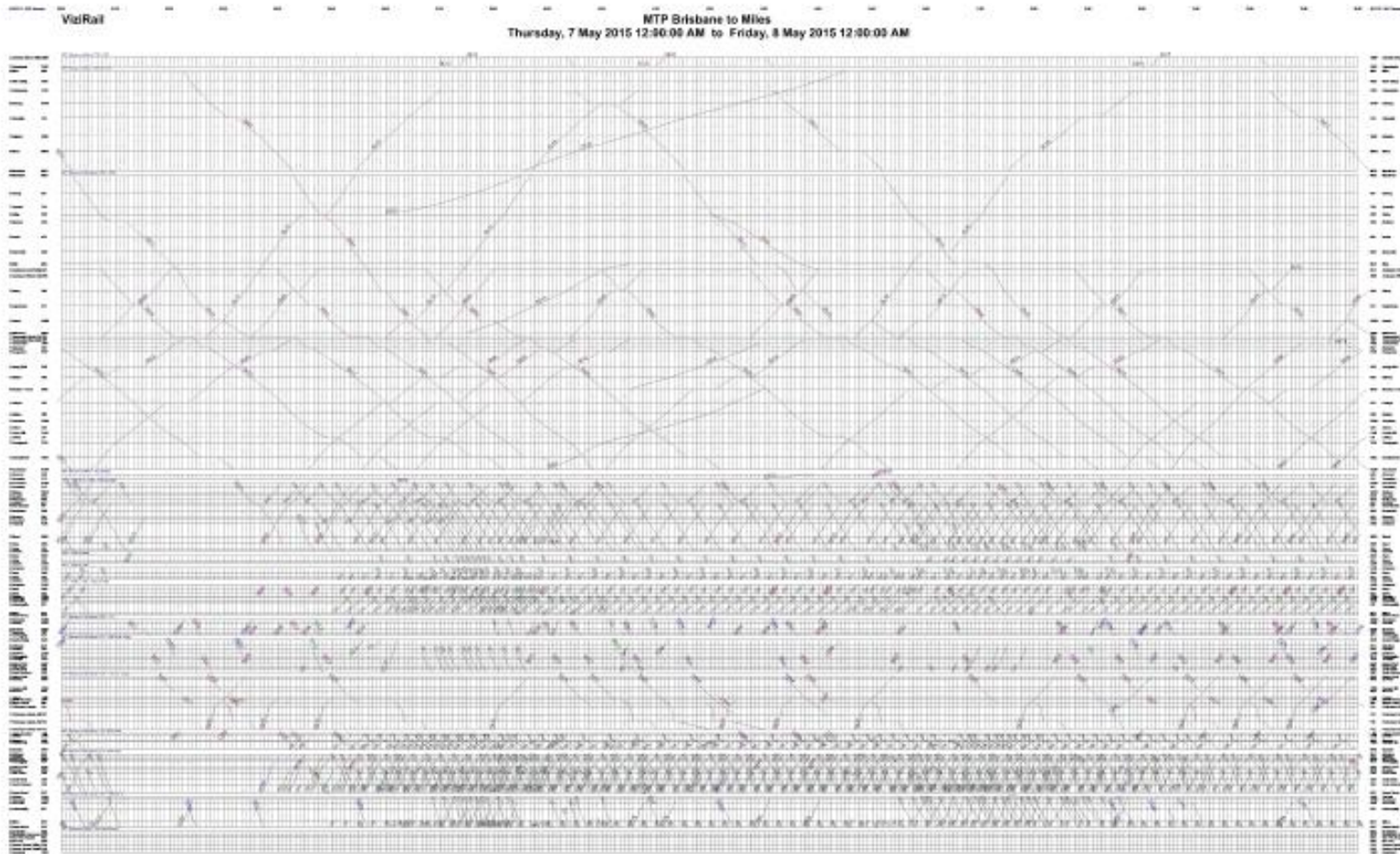


Figure 5 Current Thursday Master Train Plan



It is also interesting to note from these diagrams that, for the major coal customer on the West Moreton Network, the primary scheduling constraint is actually the train loading facility. As can be seen in the MTP diagrams, given the time required for train loading, the Metropolitan Network peak hour restrictions do not cause any 'shadow' reduction in utilisation of this loading facility.

2.3 Maintenance impacts

Four years ago, the track closure regime in the Metropolitan Network was substantially revised in order to maximise Queensland Rail's productive access to the track in order to undertake necessary maintenance work while minimising the impact on passenger services. As a result, Queensland Rail has replaced its previous regime of regular short closures of individual track segments with less regular, but longer closures of full corridors within the Metropolitan Network. Queensland Rail now fully closes one corridor within the Metropolitan Network for 48 hours approximately every second week, with each corridor closed on 1-4 weekends each year. However, due to the need for West Moreton train services to traverse multiple corridors, this track closure regime results in access to a continuous path from Rosewood to Port of Brisbane being unavailable for a 48 hour weekend closure approximately each fourth week.

The maintenance closure program for the West Moreton Network, over a four week cycle, is as follows:

- Week A – 48 hour closure on Saturday and Sunday
- Week B – no maintenance possessions
- Week C – 12 hour closure on Sunday
- Week D – 12 hour closure on Monday

While the order in which the Week A-D closures occur is not rigidly applied, Queensland Rail ensures that, over time, an even number of Weeks A, B, C and D occur. This is evidenced by the Western Corridor Alignment Calendars which identify the closure regime applied each week – these are provided at Attachment 1(actual planned - Sep-Dec 2014) and 2 (planned – April 2014-Dec 2015).

Week A closures are the critical issue in terms of alignment between the West Moreton and Metropolitan Networks. Week C and D closures are required for West Moreton maintenance alone, and do not typically correspond with metropolitan closures (although at times some track closures will occur on the Metropolitan Network in C Weeks, given the absence of coal and freight trains).

Queensland Rail's Supply Chain South and Network SEQ groups strategically plan their maintenance and capital works activities through the SCAS (Scheduled Corridor Access System) co-ordination forum up to 18 months in advance to ensure that 'Week A' closures of the West Moreton Network and the relevant weekend Metropolitan Network closures are complementary. This is demonstrated by the Western Corridor Alignment Calendars shown at Attachments 1 and 2. These calendars show that every Metropolitan Network weekend closure affecting West Moreton trains is matched by a Week A closure on the West Moreton Network.

Some maintenance work does continue to be done in both the West Moreton and Metropolitan Networks outside the standard Week A-D and weekend corridor closures. However, where work is being undertaken in the Metropolitan Network, careful planning ensures that this work is

undertaken in such a way as to leave a track open to continue to run West Moreton services (potentially under speed restriction or on an Alternate Proceed Authority which would result in some delays but no cancellations).

Co-ordination of closures and maintenance activities continues as the closure dates approach. Any potential change to planned closures sought for either the West Moreton or Metropolitan Networks needs to be reviewed by both groups, with changes only implemented if agreed. This occurs through regular meetings of the SCAS co-ordination group (SCAS COG). Minutes of the February 2015 meeting are provided at Attachment 3, as an example of the outcomes of this process. These minutes show the extent to which the groups plan their capital and maintenance work to fit within the available closures. They also show that requests for variation to closures will not proceed unless acceptable to both groups – for example, at the February 2015 meeting, a request for a change to a metro weekend closure was rejected as it would result in two ‘A week’ closures on the West Moreton Network in July 2015.

In order to demonstrate how this process translates to actual closures, Queensland Rail has provided the SCAS calendar for the period August-December 2014 as Attachment 4. This shows the planned track closures in the metropolitan region, and from this it can be seen how the weekend closures affecting the West Moreton services (Western Corridor, Gold Coast Line and Cleveland Line) line up with the ‘A Weeks’ (as the freight closure program is identified at the top of the calendar). Some additional full closures of the metropolitan Western Corridor occurred on ‘C weeks’ (eg 28 September 2014), which aligned with the pre-existing closure of the West Moreton Network. It can also be seen that other planned maintenance works on the relevant corridors are done in such a way as to allow continued operation of coal and freight services (eg weeknight closures of the Western Corridor from 8-12 September 2014). Maintenance work that occurs outside the planned SCAS closures is minor routine work and is generally done in available natural windows, hence does not cause cancellation of trains.

As noted by B&H, maintenance work in the West Moreton Network is generally done in daylight hours. Therefore, theoretically the West Moreton Network could operate with two 12 hour closures on a single weekend, rather than a 48 hour closure. However, Queensland Rail uses these longer closures to maximise its productivity in performing work that takes multiple days to perform. If Queensland Rail were to reinstate the track for night time running, this would reduce the time available for maintenance (as it would need to remove all equipment and reinstate the track for safe travel) meaning that further closures would subsequently be required to complete the work.

Queensland Rail does acknowledge, however, that it typically will only require a 36 hour closure to perform these works (Saturday morning to Sunday evening) rather than the full 48 hour closure applied in the Metropolitan Network. This resulting standard closure regime for the West Moreton Network (with one 36 hour closure and two 12 hour closures each week) comfortably fits within the planning allowance of 19 hours per week, and allows some additional margin for where closures in excess of the standard allowance are required.

The extension of the weekend closure by an additional 12 hours once each four weeks can therefore be attributable to Metropolitan Network maintenance requirements in excess of West Moreton maintenance requirements. This equates to an average of 3 hours per week of additional closures triggered by the Metropolitan Network, which in turn impacts on an average of 6 one way paths per week. This impact is demonstrated in Attachment 5 which shows the

additional paths that could be operated in the West Moreton Network over the Saturday-Monday period under a 36 hour closure.

2.4 Summary of total impact

The total impact of metropolitan peak periods and additional Metropolitan Network maintenance on the theoretical capacity of the West Moreton Network can be summarised as follows:

Table 2 Impact of Metropolitan Network constraints on West Moreton Network theoretical capacity

	One-way paths/week	
West Moreton theoretical capacity (after mtce)	298	
Unavailable due to Metropolitan Network	36	
Peak periods restrictions	30	
Additional metropolitan maintenance	6	
Total available paths (after metro impact)	262	
% Unavailable due to metro impact	12.1%	

Queensland Rail notes that, when B&H performed its analysis of Metropolitan Network constraints for the QCA's 2014 Consultation Paper, it applied a similar analysis to that described here. However, that analysis contained some errors (eg, B&H assessed the total theoretical capacity of the West Moreton Network as 326 rather than 336). There were also some incorrect assumptions – in particular, B&H's assumption of only 60% overlap between the metropolitan and West Moreton Network closures). In addition, B&H made a final adjustment in order to reflect Queensland Rail's assessed 'inefficiency' in the use of operational (rather than theoretical) capacity.

As discussed previously, operational capacity (that is, the capacity that Queensland Rail considers can reliably be provided after allowing for operational variability) is invariably less than theoretical capacity, as some paths need to be held as 'reserve paths' to ensure robust system operation. In the West Moreton Network, this allowance is as follows:

Table 3 West Moreton Network operating capacity

	One-way paths/week
West Moreton theoretical capacity (after mtce)	298
Unavailable due to Metropolitan Network	36
Total available paths (after metro impact)	262
Maximum contracting capacity ⁴	224
Additional reserve paths (total available less maximum contracting capacity)	38

Retention of a level of reserve capacity to manage operational variability is universally applied by railway managers, and reflects good industry practice in order to ensure that the railway has sufficient capacity to reliably meet contracted entitlements. This should not be seen as an inefficiency in Queensland Rail's capacity management.

⁴ As discussed in Queensland Rail's submission on the West Moreton reference tariff, Queensland Rail's maximum contracting capacity on the West Moreton Network is 112 return paths per week or 224 one way paths per week.

In B&H's analysis though, it appears to be mixing the concepts of theoretical and operational capacity, as while it describes its assessment as based on theoretical capacity, it has increased the assessed % impact on theoretical capacity to reflect the difference (in % terms) between theoretical and operational capacity – which B&H refers to as an inefficiency factor. This causes B&H's final assessed impact of the Metropolitan Network to be higher than its assessed impact on theoretical capacity. Queensland Rail considers that there is neither logic nor justification for this approach.

As a result, Queensland Rail has assessed the impact on West Moreton Network theoretical capacity due to Metropolitan Network constraints as being 12.1%.

As noted previously, it is Queensland Rail's view that, from an operational perspective, the real impact of the metropolitan constraints is less than this – indeed negligible - as the paths that are sterilised due to the Metropolitan Network can still effectively be used as reserve paths (noting that reserve paths would still be required regardless of the Metropolitan Network constraints).

Notwithstanding this, Queensland Rail proposes to reduce the allocation of pre-1995 assets to coal services to reflect the assessed 12.1% impact on theoretical capacity.

Attachment 1: Western Corridor Alignment Calendar – Sep-Dec 2014

Western Coal Supply Chain

Western Corridor Alignment Calendar 2014

WEEK TYPE
 A = 48 HRS SAT/SUN
 B = NIL POSSESSION
 C = 12 HRS SUN
 D = 12 HRS MON

48 Hour Closures

Conflicts

Maintenance Time Available

Recent Changes / Additions

NB: Only includes TOTAL CLOSURES Corinda to Roma Street

Last updated 26/08/14

Weekend	Week Type	Times	Location	Western	Suburban
SAT 30/08/2014	C				
SUN 31/08/2014	C	0630 Sun - 1730 Sun	Oakey - Jondaryan Coal Siding	Re-Conditioning	
		0630 Sun - 1730 Sun	Grandchester - Laidley	Signals	
		0630 Sun - 1730 Sun	Toowoomba Brook Street	Signals	
		0630 Sun - 1700 Sun	Helidon - Lockyer	Bridge Maintenance	
		0700 Sun - 1700 Mon	Tycanba - Macalister	Formation	
MON 01/09/2014	D	0630 Mon - 1730 Mon	Murphy's Creek - Rangeview	General Maintenance	
		0700 Sun - 1700 Mon	Tycanba - Macalister	Formation	
		0630 Mon - 1700 Mon	Helidon - Lockyer	Bridge Maintenance	
		0800 Mon - 1200 Mon	Grantham Yard	Contractor	
		0930 Mon - 1330 Mon	Murphy's Creek - Rangeview	Ballasting	
SAT 06/09/2014	D				
SUN 07/09/2014	D				No train period required is from 0400 to 0800 Cleveland Line Shutdown - Murrarie
Fri 12/09/2014	A	0630 Fri - 1730 Mon	Oakey - Jondaryan Coal Siding	Re-Conditioning	
		0630 Fri - 1730 Mon	Spring Bluff - Rangeview	Re-Railing	
		0630 Fri - 1700 Mon	Malu - Bowenville	Re-Conditioning	
		0615 Fri - 1745 Mon	Dalby - Tycanba	Bridge Maintenance	
		0615 Fri - 1745 Mon	Tycanba - Baining	Bridge Maintenance	
		0600 Fri - 1800 Mon	Rangeview - Willowburn	Signals	
		0600 Fri - 1300 Sat	Forest Hill - Gatton	Bridge Construction	
0600 Fri - 0600 Tue	Fisherman Island		Fisherman Islands Coal Unloader Closure		
SAT 13/09/2014	A		Ipswich Workshops - Gatton	TWRM Charter	
		0630 Fri - 1730 Mon	Oakey - Jondaryan Coal Siding	Re-Conditioning	
		0630 Fri - 1730 Mon	Spring Bluff - Rangeview	Re-Railing	
		0630 Fri - 1700 Mon	Malu - Bowenville	Re-Conditioning	
		0615 Fri - 1745 Mon	Dalby - Tycanba	Bridge Maintenance	
		0615 Fri - 1745 Mon	Tycanba - Baining	Bridge Maintenance	
		0600 Fri - 1800 Mon	Rangeview - Willowburn	Signals	
		0700 Sat - 1700 Sat	Grantham - Helidon	Bridge Maintenance	
		0600 Fri - 1300 Sat	Forest Hill - Gatton	Bridge Construction	
		1300 Sat - 2359 Mon	Forest Hill - Gatton	Bridge Construction	
0600 Fri - 0600 Tue	Fisherman Island		Fisherman Islands Coal Unloader Closure		
SUN 14/09/2014	A	0630 Fri - 1730 Mon	Oakey - Jondaryan Coal Siding	Re-Conditioning	
		0630 Fri - 1730 Mon	Spring Bluff - Rangeview	Re-Railing	
		0630 Fri - 1700 Mon	Malu - Bowenville	Re-Conditioning	
		0615 Fri - 1745 Mon	Dalby - Tycanba	Bridge Maintenance	
		0615 Fri - 1745 Mon	Tycanba - Baining	Bridge Maintenance	
		0600 Fri - 1800 Mon	Rangeview - Willowburn	Signals	
		0700 Sun - 1700 Sun	Grantham - Helidon	Bridge Maintenance	
		1300 Sat - 2359 Mon	Forest Hill - Gatton	Bridge Construction	
		0700 Sun - 1700 Sun	Ipswich - Rosewood		Wulkuraka Stabling Yard O/H modification works / Resleeping
		0600 Fri - 0600 Tue	Fisherman Island		Fisherman Islands Coal Unloader Closure

MON 15/09/2014	B	0630 Fri - 1730 Mon	Oakey - Jondaryan Coal Siding	Re-Conditioning		
		0630 Fri - 1730 Mon	Spring Bluff - Rangeview	Re-Railing		
		0630 Fri - 1700 Mon	Malu - Bowenville	Re-Conditioning		
		0615 Fri - 1745 Mon	Dalby - Tycanba	Bridge Maintenance		
		0615 Fri - 1745 Mon	Tycanba - Baining	Bridge Maintenance		
		0600 Fri - 1800 Mon	Rangeview - Willowburn	Signals		
		1300 Sat - 2359 Mon	Forest Hill - Gatton	Bridge Construction		
		0600 Fri - 0600 Tue	Fisherman Island		Fisherman Islands Coal Unloader Closure	
SAT 20/09/2014	B		Roma Street to Toowoomba	Carnival of Flowers - 20th to 27th September 2014	Roma Street to Toowoomba Services running 20th, 21st and 24th. Toowoomba to Spring Bluff twice daily 21/9 to 26/9 and once 27/9	
SUN 21/09/2014	B		Roma Street to Toowoomba	Carnival of Flowers - 20th to 27th September 2014	Roma Street to Toowoomba Services running 20th, 21st and 24th. Toowoomba to Spring Bluff twice daily 21/9 to 26/9 and once 27/9	
SAT 27/09/2014	C		Roma Street to Toowoomba	Carnival of Flowers - 20th to 27th September 2014	Roma Street to Toowoomba Services running 20th, 21st and 24th. Toowoomba to Spring Bluff twice daily 21/9 to 26/9 and once 27/9	
SUN 28/09/2014	C	0630 Sun - 1730 Sun	Oakey - Jondaryan Coal Siding	Re-Conditioning		
		0700 Sun - 1700 Sun	Tycanba - Baining	Re-Conditioning		
		0700 Sun - 1700 Sun	Ipswich - Rosewood		Wulkuraka Stabling Yard O/H modification works / Resleeping	
MON 29/09/2014	D	0630 Mon - 1730 Mon	Murphy's Creek - Rangeview	General Maintenance		
		0700 Mon - 1700 Mon	Warra - Brigalow	Re-Conditioning		
SAT 04/10/2014	D					
SUN 05/10/2014	D					
MON 06/10/2014	A	LABOUR DAY				
SAT 11/10/2014	A	0200 Sat - 0230 Mon	Corinda - Rosewood		Ipswich Line Shutdown	
		0630 Sat - 1730 Sun	Oakey - Jondaryan Coal Siding	Re-Conditioning		
		0630 Sat - 1700 Sun	Malu - Bowenville	Re-Conditioning		
		0600 Sat - 1800 Sun	Grandchester Yard	Signals		
		0700 Sat - 1700 Sat	Grantham - Helidon	Bridge Maintenance		
		0600 Sat - 0600 Mon	Fisherman Island		Coal Unloader Closure	
SUN 12/10/2014	A	0200 Sat - 0230 Mon	Corinda - Rosewood		Ipswich Line Shutdown	
		0630 Sat - 1730 Sun	Oakey - Jondaryan Coal Siding	Re-Conditioning		
		0630 Sat - 1700 Sun	Malu - Bowenville	Re-Conditioning		
		0600 Sat - 1800 Sun	Grandchester Yard	Signals		
		0600 Sat - 0600 Mon	Fisherman Island		Coal Unloader Closure	
SAT 18/10/2014	B					
SUN 19/10/2014	B					
SAT 25/10/2014	C					
SUN 26/10/2014	C	0630 Sun - 1730 Sun	Oakey - Jondaryan Coal Siding	Re-Conditioning		
		0630 Sun - 1730 Sun	Tycanba - Baining	Re-Conditioning		
MON 27/10/2014	D	0630 Mon - 1730 Mon	Murphy's Creek - Rangeview	Re-Conditioning		
		0700 Mon - 1700 Mon	Tycanba - Baining	Re-Conditioning		
SAT 01/11/2014	D					
SUN 02/11/2014	D					

SAT 08/11/2014	A	0630 Sat - 1700 Sun	Malu - Bowenville	Re-Conditioning	Cleveland Line Shutdown
		0930 Sat - 1730 Sun	Laidley - Forest Hill	Re-Conditioning	
SUN 09/11/2014	A	0630 Sat - 1700 Sun	Malu - Bowenville	Re-Conditioning	Cleveland Line Shutdown
		0930 Sat - 1730 Sun	Laidley - Forest Hill	Re-Conditioning	
SAT 15/11/2014	B				
SUN 16/11/2014	B				
SAT 22/11/2014	C				
SUN 23/11/2014	C	0630 Sun - 1730 Sun	Oakey - Jondaryan Coal Siding	Re-Conditioning	
		0630 Sun - 1700 Sun	Malu - Bowenville	Re-Conditioning	
MON 24/11/2014	D	0630 Mon - 1730 Mon	Murphy's Creek - Rangeview	General Maintenance	
		0630 Mon - 1700 Mon	Malu - Bowenville	Re-Conditioning	
		0630 Mon - 1730 Mon	Willowburn - Gowrie	Re-Conditioning	
SAT 29/11/2014	D				
SUN 30/11/2014	D				
SAT 06/12/2014	C				
SUN 07/12/2014	C	0700 Sun - 1700 Sun	Grantham - Helidon	Formation	
		0700 Sun - 1700 Sun	Rosewood - Grandchester	Formation	
		0730 Sun - 1230 Sun	Oakey - Dalby	Ultrasonic Test Car	
SAT 13/12/2014	A	0001 Sat - 0300 Mon	Yeerongpilly		Beenleigh Line Shutdown
		0700 Sat - 1700 Sun	Malu - Bowenville	Formation	
		0700 Sat - 1700 Sun	Columboola - Rainby	Formation	
		0900 Sat - 1500 Sat	Helidon - Toowoomba	Ultrasonic Test Car	
		0930 Sat - 1730 Sun	Laidley - Forest Hill	Re-Conditioning	
SUN 14/12/2014	A		Ipswich Workshops - Grandchester	Ipswich Workshops to Grandchester Charter	Beenleigh Line Shutdown
		0001 Sat - 0300 Mon	Yeerongpilly		
		0700 Sat - 1700 Sun	Malu - Bowenville	Formation	
		0700 Sat - 1700 Sun	Columboola - Rainby	Formation	
		0730 Sun - 1530 Sun	Oakey - Helidon	Ultrasonic Test Car	
		0930 Sat - 1730 Sun	Laidley - Forest Hill	Re-Conditioning	
SAT 20/12/2014	B				
SUN 21/12/2014	B				
MON 22/12/2014	D	0630 Mon - 1730 Mon	Murphy's Creek - Rangeview	General Maintenance	
		0700 Mon - 1700 Mon	Rosewood - Grandchester	Re-Conditioning	
SAT 27/12/2014	D	0800 Sat - 1730 Sun	Spring Bluff - Rangeview	Re-Railing	
SUN 28/12/2014	D	0800 Sat - 1730 Sun	Spring Bluff - Rangeview	Re-Railing	

Attachment 2: Western Corridor Alignment Calendar – Apr 2015-Dec 2016

Weekend	Week Type	Times	Location	Western	Suburban
SAT 18/04/2015	C	0600 Sat - 2359 Tue	Malu - Bowenville	Drain Renewal	
		0600 Sat - 1800 Tue	Macalister - Brigalow	Bridge Maintenance	
SUN 19/04/2015	C	0600 Sat - 2359 Tue	Malu - Bowenville	Drain Renewal	
		0600 Sat - 1800 Tue	Macalister - Brigalow	Bridge Maintenance	
		0700 Sun - 1500 Sun	Rosewood - Yarongmulu	Ballasting	
		0800 Sun - 1215 Sun	Helidon - Toowoomba	NDT Car	
MON 20/04/2015	D	0600 Sat - 2359 Tue	Malu - Bowenville	Drain Renewal	
		0600 Sat - 1800 Tue	Macalister - Brigalow	Bridge Maintenance	
		0600 Mon - 1800 Tue	Malu Yard	Formation	
		0800 Mon - 1230 Mon	Toowoomba - Malu	NDT Car	
SAT 25/04/2015	D	1345 Sat - 1500 Sat	Kingsthorpe Yard	No Train Period	
SUN 26/04/2015	D				
SAT 02/05/2015	A	0200 Sat - 0300 Mon	Corinda - Rosewood		Ipswich Line Shutdown. Westlander stows Toowoomba
		0730 Sat - 1730 Sun	Blaxland - Dalby	Bridge Maintenance	
		0600 Sat - 1800 Sun	Oakey - Jondaryan Coal Siding	Re-Conditioning	
		0600 Sat - 2359 Sun	Holmes - Rangeview	Third Party	
		0600 Sat - 2359 Sun	Grandchester - Yarongmulu	Third Party	
		0630 Sat - 1730 Sun	Holmes - Spring Bluff	Re-Railing	
SUN 03/05/2015	A	0200 Sat - 0300 Mon	Corinda - Rosewood		Ipswich Line Shutdown. Westlander stows Toowoomba
		0730 Sat - 1730 Sun	Blaxland - Dalby	Bridge Maintenance	
		0600 Sat - 1800 Sun	Oakey - Jondaryan Coal Siding	Re-Conditioning	
		0600 Sat - 2359 Sun	Holmes - Rangeview	Third Party	
		0600 Sat - 2359 Sun	Grandchester - Yarongmulu	Third Party	
		0630 Sat - 1730 Sun	Holmes - Spring Bluff	Re-Railing	
SAT 09/05/2015	B				
SUN 10/05/2015	B				
SAT 16/05/2015	C				

WEEK TYPE	
A = 48 HRS SAT/SUN	48 Hour Closures
B = NIL POSSESSION	Conflicts
C = 12 HRS SUN	Maintenance Time Available
D = 12 HRS MON	Recent Changes / Additions



Western Coal Supply Chain Western Corridor Alignment Calendar 2015

NB: Only includes TOTAL CLOSURES Corinda to Roma Street

Last updated 14/04/15

SUN 17/05/2015	C	0600 Sun - 1830 Sun	Grandchester - Yarongmulu	Third Party		
		0600 Sun - 1800 Sun	Oakey - Jondaryan Coal Siding	Re-Conditioning		
		0630 Sun - 1800 Sun	Lockyer - Murphy's Creek	Bridge Maintenance		
MON 18/05/2015	D	0600 Mon - 1730 Mon	Grandchester - Yarongmulu	Third Party		
		0700 Mon - 1400 Mon	Laidley - Forest Hill	Rail Drop		
		0600 Mon - 1800 Mon	Lockyer - Murphy's Creek	Bridge Maintenance		
		0600 Mon - 1800 Mon	Yarongmulu - Laidley	Formation		
SAT 23/05/2015	D					
SUN 24/05/2015	D					
SAT 30/05/2015	C					
SUN 31/05/2015	C	0630 Sun - 1800 Sun	Toowoomba Brook Street - Willowburn	Re-Railing		
		0600 Sun - 1730 Sun	Grandchester - Yarongmulu	Third Party		
		0730 Sun - 1800 Sun	Bainin - Macalister	Bridge Maintenance		
		0600 Sun - 1800 Sun	Bainin - Macalister	Formation		
		0600 Sun - 2000 Sun	Yarongmulu - Laidley	Formation		
		0630 Sun - 1800 Sun	Forest Hill Yard	Undercutting		
		0700 Sun - 1700 Sun	Redbank - Ipswich	No Train Period		
MON 01/06/2015	D	0630 Mon - 1800 Mon	Bainin - Macalister	Bridge Maintenance		
		0700 Mon - 1730 Mon	Yarongmulu - Laidley	Re-Railing		
		0600 Mon - 1800 Mon	Toowoomba Brook Street - Willowburn	Welding		
		0600 Mon - 1800 Mon	Bainin - Macalister	Formation		
SAT 06/06/2015	D					
SUN 07/06/2015	D					
MON 08/06/2015	C	QUEENS BIRTHDAY				
SAT 13/06/2015	C					
SUN 14/06/2015	C	0700 Sun - 1700 Sun	Redbank - Ipswich	No Train Period		
SAT 20/06/2015	A	0600 Sat - 1800 Sun	Oakey - Jondaryan Coal Siding	Re-Conditioning		
		0600 Sat - 1800 Sun	Spring Bluff - Rangeview	Re-Railing		
		0030 Sat - 0030 Mon	Laidley - Forest Hill	Bridge Construction	Westlander stows Toowoomba	
		0010 Sat - 0230 Mon	Park Road - Lytton Junction		Cleveland Line Shutdown	
SUN 21/06/2015	A	0600 Sat - 1800 Sun	Oakey - Jondaryan Coal Siding	Re-Conditioning		
		0600 Sat - 1800 Sun	Spring Bluff - Rangeview	Re-Railing		
		0030 Sat - 0030 Mon	Laidley - Forest Hill	Bridge Construction	Westlander stows Toowoomba	
		0010 Sat - 0230 Mon	Park Road - Lytton Junction		Cleveland Line Shutdown	
SAT 27/06/2015	B					
SUN 28/06/2015	B					
SAT 04/07/2015	A	0200 Sat - 0300 Mon (Times TBC)	Corinda - Rosewood		Ipswich Line Shutdown, Westlander stows Toowoomba	
		0030 Sat - 0030 Mon	Laidley - Forest Hill	Bridge Construction		
		0600 Sat - 1800 Sun	Spring Bluff - Rangeview	Re-Railing		
		0730 Sat - 1745 Sat	Spring Bluff - Rangeview	Welding		

SUN 05/07/2015	A	0200 Sat - 0300 Mon (Times TBC)	Corinda - Rosewood		Ipswich Line Shutdown. Westlander stows Toowoomba
		0030 Sat - 0030 Mon	Laidley - Forest Hill	Bridge Construction	
		0600 Sat - 1800 Sun	Spring Bluff - Rangeview	Re-Railing	
SAT 11/07/2015	B				
SUN 12/07/2015	B				
SAT 18/07/2015	C				
SUN 19/07/2015	C				
SAT 25/07/2015	C				
SUN 26/07/2015	C	(Times TBC) 0700 Sun - 1700 Sun	Corinda - Redbank	Grandchester Steamfest	No Train Period
SAT 01/08/2015	A	0030 Sat - 0030 Mon	Laidley - Forest Hill	Bridge Construction	Westlander stows Toowoomba
		0600 Sat - 1800 Sun	Spring Bluff - Rangeview	Re-Railing	
		0800 Sat - 1630 Sat	Rangeview - Harlaxton	Welding	
SUN 02/08/2015	A	0030 Sat - 0030 Mon	Laidley - Forest Hill	Bridge Construction	Westlander stows Toowoomba
		0600 Sat - 1800 Sun	Spring Bluff - Rangeview	Re-Railing	
SAT 08/08/2015	B				
SUN 09/08/2015	B				

SAT 15/08/2015	C				
SUN 16/08/2015	C				
MON 17/08/2015	D				
SAT 22/08/2015	D				
SUN 23/08/2015	D				
SAT 29/08/2015	C				
SUN 30/08/2015	C				
MON 31/08/2015	D				
SAT 05/09/2015	D				
SUN 06/09/2015	D				
SAT 12/09/2015	A	0030 Sat - 0030 Mon	Laidley - Forest Hill	Bridge Construction (contingency)	Westlander stows Toowoomba (if contingency is required)
		0630 Sat - 1730 Sun	Holmes - Spring Bluff	Re-Railing	
		0001 Sat - 0310 Mon	Dutton Park - Yeerongpilly		Beenleigh Line Shutdown
SUN 13/09/2015	A	0030 Sat - 0030 Mon	Laidley - Forest Hill	Bridge Construction (contingency)	Westlander stows Toowoomba (if contingency is required)
		0630 Sat - 1730 Sun	Holmes - Spring Bluff	Re-Railing	
		0001 Sat - 0310 Mon	Dutton Park - Yeerongpilly		Beenleigh Line Shutdown

SAT 19/09/2015	B		Roma Street to Toowoomba	Carnival of Flowers - 19th to 26th September 2015	Roma Street to Toowoomba Services running 19th, 20th and 23rd. Toowoomba to Spring Bluff twice daily 20/9 to 26/9
SUN 20/09/2015	B		Roma Street to Toowoomba	Carnival of Flowers - 19th to 26th September 2015	Roma Street to Toowoomba Services running 19th, 20th and 23rd. Toowoomba to Spring Bluff twice daily 20/9 to 26/9
SAT 26/09/2015	C		Roma Street to Toowoomba	Carnival of Flowers - 19th to 26th September 2014	Roma Street to Toowoomba Services running 19th, 20th and 23rd. Toowoomba to Spring Bluff twice daily 20/9 to 26/9
SUN 27/09/2015	C	0700 Sun - 1700 Sun	Corinda - Redbank		No Train Period
SAT 03/10/2015	A	0600 Sat - 1800 Mon	Spring Bluff - Rangeview	Re-Railing	
SUN 04/10/2015	A	0200 Sat - 0230 Tue 0600 Sat - 1800 Mon	Spring Bluff - Rangeview	Re-Railing	Wulkuraka Stable Yard works - Commissioning
MON 5/10/2015	B	0200 Sat - 0230 Tue			Wulkuraka Stable Yard works - Commissioning
LABOUR DAY					
SAT 10/10/2015	B	0600 Sat - 1800 Mon	Spring Bluff - Rangeview	Re-Railing	
SUN 11/10/2015	B	0200 Sat - 0230 Tue			Wulkuraka Stable Yard works - Commissioning
MON 12/10/2015	D				
SAT 17/10/2015	D				
SUN 18/10/2015	D				
SAT 24/10/2015	C				
SUN 25/10/2015	C				
MON 26/10/2015	D				
SAT 31/10/2015	D				
SUN 01/11/2015	D				
SAT 07/11/2015	C				
SUN 08/11/2015	C				

MON 26/10/2015	D				
SAT 31/10/2015	D				
SUN 01/11/2015	D				
SAT 07/11/2015	C				
SUN 08/11/2015	C				
MON 09/11/2015	D				
SAT 14/11/2015	D				
SUN 15/11/2015	D				
SAT 21/11/2015	A	0600 Sat - 1800 Sun 0010 Sat - 0230 Mon	Spring Bluff - Rangeview Park Road - Lytton Junction	Re-Railing	Cleveland Line Shutdown. Westlander runs
SUN 22/11/2015	A	0600 Sat - 1800 Sun 0010 Sat - 0230 Mon	Spring Bluff - Rangeview Park Road - Lytton Junction	Re-Railing	Cleveland Line Shutdown. Westlander runs
SAT 28/11/2015	B				
SUN 29/11/2015	B				
SAT 05/12/2015	C				
SUN 06/12/2015	C	0700 Sun - 1700 Sun	Corinda - Redbank		No Train Period
SAT 12/12/2015	A	0600 Sat - 1800 Sun 0001 Sat - 0310 Mon	Toowoomba Dutton Park - Yeerongpilly	Re-Railing	Beenleigh Line Shutdown. Westlander runs
SUN 13/12/2015	A	0600 Sat - 1800 Sun 0001 Sat - 0310 Mon	Toowoomba Dutton Park - Yeerongpilly	Re-Railing	Beenleigh Line Shutdown. Westlander runs
SAT 19/12/2015	B				
SUN 20/12/2015	B				
MON 21/12/2015	D				
SAT 26/12/2015	D				
SUN 27/12/2015	D				

Attachment 3: SCAS Co-ordination Group Minutes February 2015

Attachment 4: SCAS Calendar Sep-Dec 2014

Western Corridor
Gold Coast Line
Inner City Line
Shorncliffe Line
North Coast Line
Cleveland Line
Ferry Grove Line
Closure Requiring Rescheduling
Weeknight Closure (SCAS)
Albion OH Weekend Closure



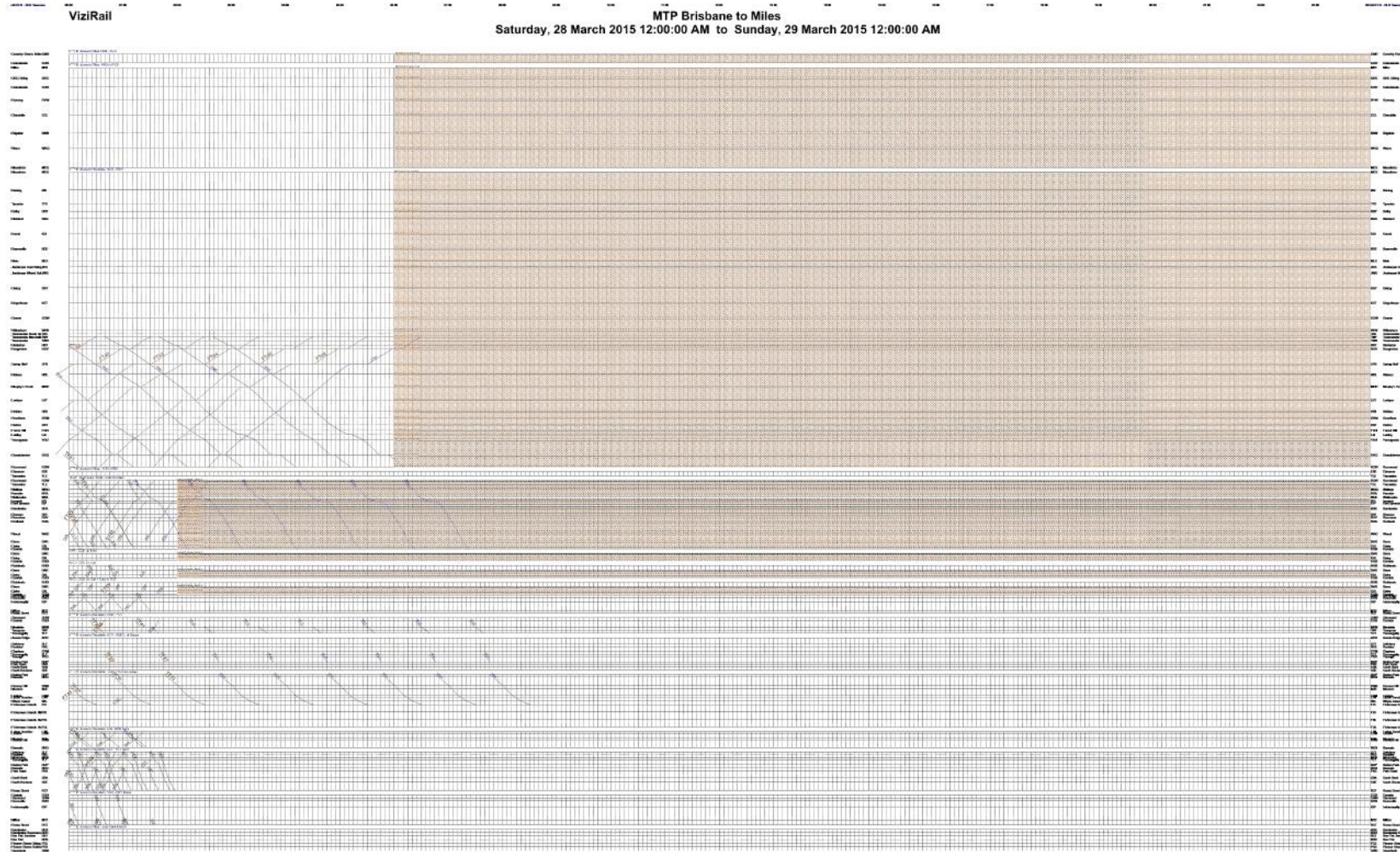
Shutdowns, Closures and Isolations 2014

Updated 28/08/2014

Mth	SCAS	Corridor	Shutdown Details	Start Date	Finish Date	Major Planned Works / Special Events
						School Holidays
						Freight Services
Aug	SE	Special Event		29/08/2014	29/08/2014	NRL - Broncos v St George Dragons - 1930hrs Fr - Suncorp Stadium
Aug	SE	Special Event		29/08/2014	29/08/2014	Gold Coast Suns vs West Coast Eagles
Aug	WE	North Coast	Closure : Northgate to Caboolture 0200 Sat - 2359 Sun ISO 1: 0200 Sat to 2359 Sun Buses Northgate to Gympie North	30/08/2014	31/08/2014	Bald Hills VLOM & MEN Inspections: Structures, track, civil and engineering MBRL L2P Works Rerail Petrie & Bald Hills Overhead Maintenance - Burpengary to Caboolture Telegraph Rd Level Xing Recon Down & Middle Rd Mullet Creek Bridge Carseidine Recondition Down & Middle Rd Station Upgrade Maintenance Caboolture
Aug	WE	North Coast	Closure : Caboolture to Cooran 0400 Sat - 2200 Sun TWA 1 Traveston to Tamaree 0400 Sat to 1730 Sun TWA 2 Traveston to Gympie Nth 1730 to 2200 Sun ISO 2: 0400 Sat - 1730 Sun Caboolture to Tamaree Buses Northgate to Gympie North / Maryborough	30/08/2014	31/08/2014	Replace Vee 12 Points Gympie North Replace Vee 7 Points Cooroy Bridge Stage Examinations Traveston to Gympie Nth Recondition Ballast Deck Bridge Glanmire
Sep	SE	Special Event		1/09/2014	1/09/2014	Queen + Adam Lambert, Brisbane Entertainment Centre, Boondall
Sep	WN	Ferry Grove Line	Closure : Clear of Flyover to Ferry Grove 2200 Mon to 0400 Tues ISO 2200 Mon to 0400 Tues Buses Bowen Hills to Ferry Grove	1/09/2014	2/09/2014	Mitchelton TSC Replacement Project
Sep	WN	Ferry Grove Line	Closure : Clear of Flyover to ferry Grove 2200 Tues to 0400 Wed ISO 2200 Tues to 0400 Wed Buses Bowen Hills to Ferry Grove	2/09/2014	3/09/2014	Mitchelton TSC Replacement Project 7.460km Defect Removal Dwn Road
Sep	WN	Western Corridor	Closure Ipswich to Rosewood 2300 to 0330 Wed & Thurs Up Main ISO 2200 to 0330 Wed & Thurs Buses Ipswich to Rosewood Freight SLW Down Main	3/09/2014	5/09/2014	DPOH Wulkaraka NGR
Sep	AL OH MTCE	Inner City Line	Closure : Roma Street to Bowen Hills 2245 Wed to 0400 Thurs All Roads & Up & Dn Sube Bowen Hills to Albion & Up & Dn Ferry Grove Lines Bowen Hills to Windsor TBC ISO 1: 2245 Wed to 0400 Thurs Buses: Roma St to Northgate & Ferry Grove Freight: via Up & Down Exhibitions then Up & Dn mains Mayne to Albion	3/09/2014	4/09/2014	Comment - Albion Overhead Maintenance to confirm exact isolation section requirements Black Box Maintenance Request for 2100hrs Start on Up Suburban Only
Sep	SE	Special Event		7/09/2014	7/09/2014	NRL - Titans v Canterbury Bulldogs - 1500hrs Sun - Robina Stadium
Sep	WE PROJ	Shorncliffe Line	Closure: Northgate to Shorncliffe 0200 Sat to 0200 Mon ISO: 0200 Sat to 1400 Sat Buses Northgate to Shorncliffe	6/09/2014	8/09/2014	Mechanised Resleeping Resleeper Up Sub Sandgate Platform Replace GIJ SES Insert Switch & Stock Rail 770B Points

###	Sep-2014							Oct-2014							Nov-14							Dec-14													
Sa	Su	Sa	Su	Sa	Su	Sa	Su	Sa	Su	Sa	Su	Sa	Su	Sa	Su	Sa	Su	Sa	Su	Sa	Su	Sa	Su	Sa	Su	Sa	Su	Sa	Su	Sa	Su				
30	31	6	7	13	14	20	21	27	28	4	5	11	12	18	19	25	26	1	2	8	9	15	16	22	23	29	30	6	7	13	14	20	21	27	28
C	C	D	D	A	A	B	B	C	C	D	D	A	A	B	B	C	C	D	D	A	A	B	B	C	C	D	D	A	A	B	B	C	C		

Attachment 5: Impact of 48 vs 36 hour maintenance closure

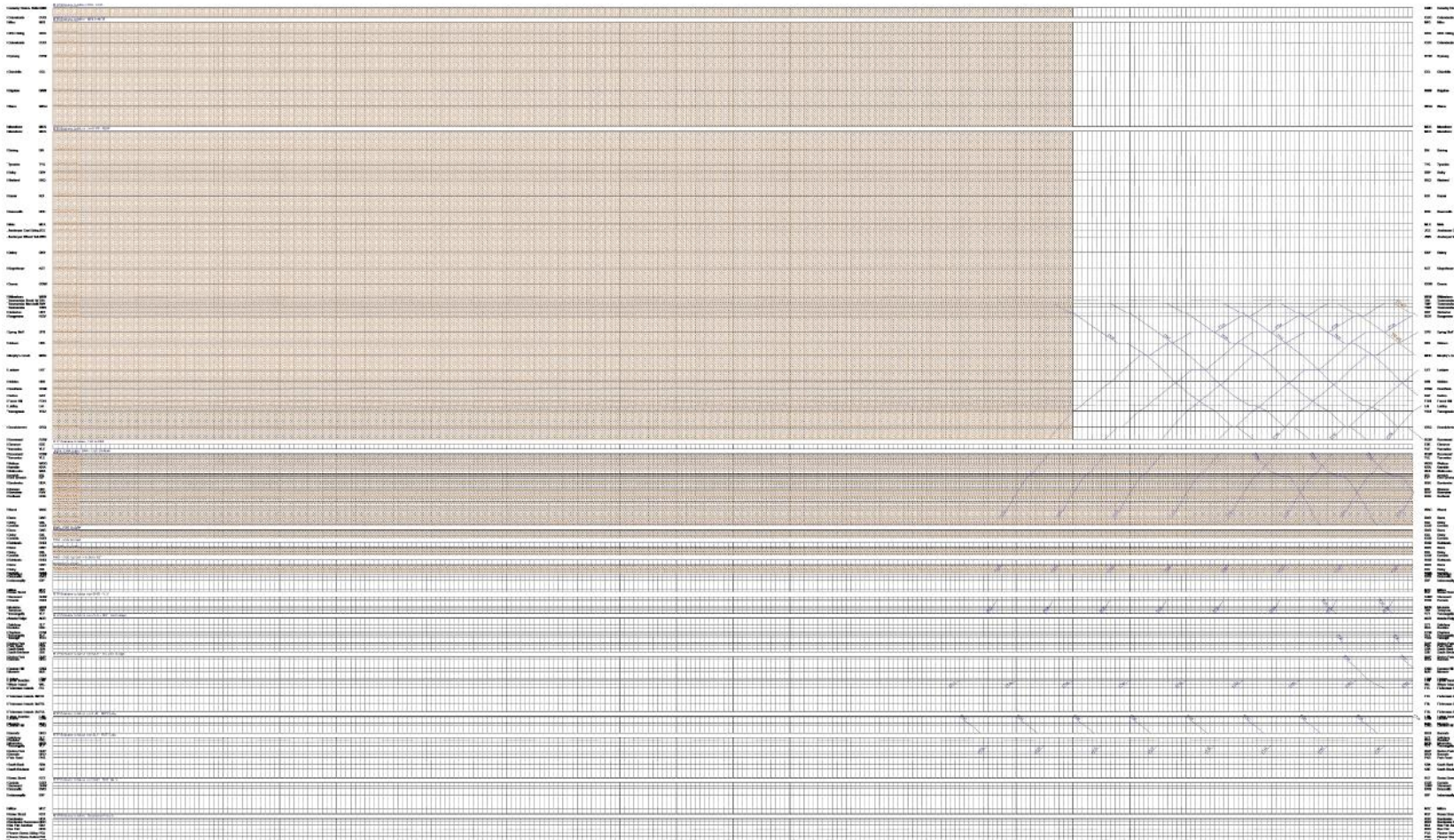


Saturday Capacity with and without Metro 48 hour closure

Blue paths are only for the 36 hour closure

ViziRail

MTP Brisbane to Miles
 Sunday, 29 March 2015 12:00:00 AM to Monday, 30 March 2015 12:00:00 AM

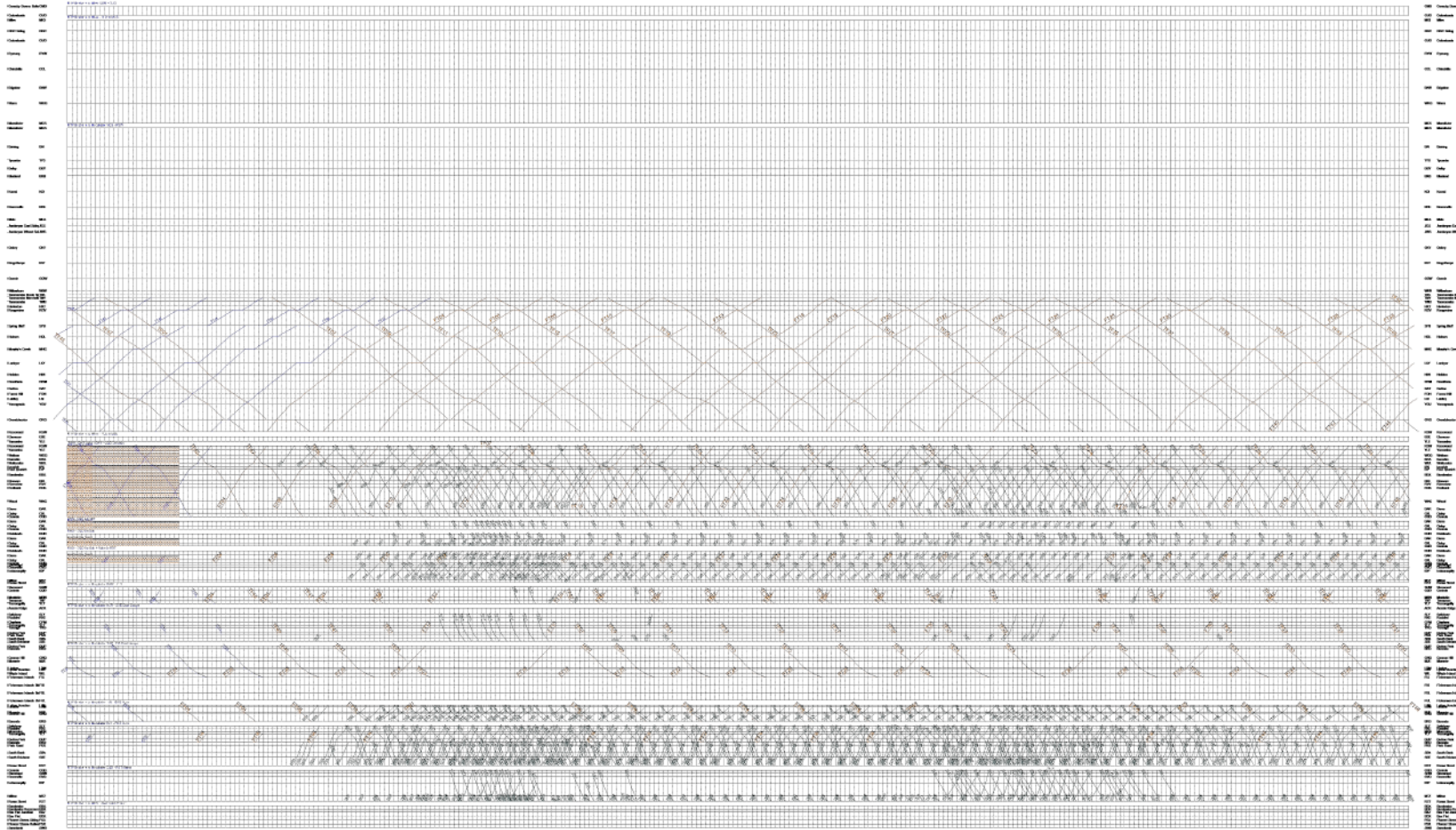


Sunday Capacity with and without Metro 48 hour closure

Blue paths are only for the 36 hour closure

ViziRail

MTP Brisbane to Miles
Monday, 30 March 2015 12:00:00 AM to Tuesday, 31 March 2015 12:00:00 AM



Monday Capacity with and without Metro 48 hour closure

Blue paths are only for the 36 hour closure