

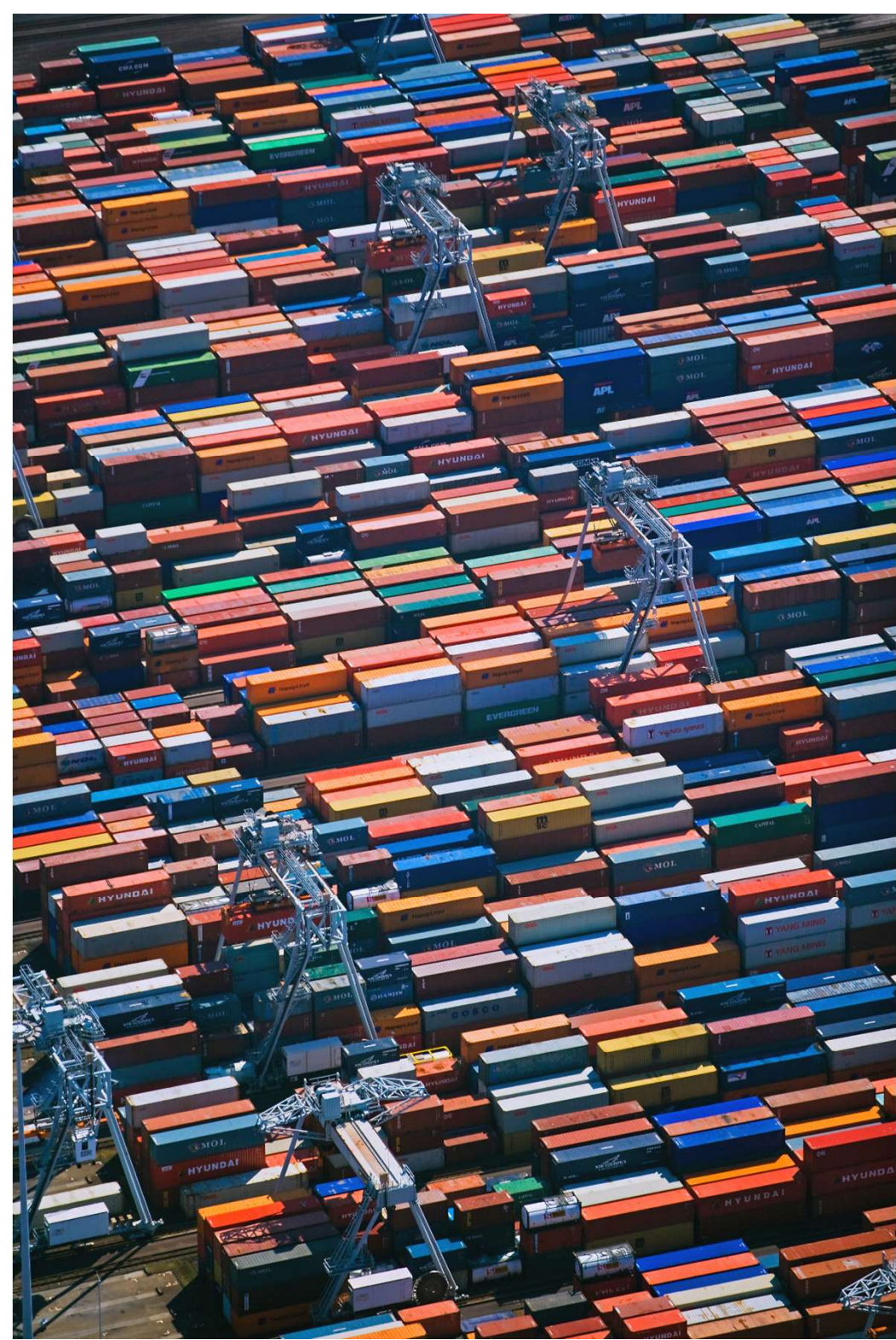


Port Botany Landside Improvement Strategy (PBLIS) Industry Behavioural Research

Transport for NSW
Final report - internal

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Executive summary

Executive summary

PBLIS was introduced in 2010 to improve the efficiency of carriers and the landside operations of terminal operators.

In 2021, Transport for NSW (TfNSW) announced a comprehensive independent review by Ed Willett of the Ports and Maritime Administration Act 1995 (the Act) and the performance of the Port Botany Landside Improvement Strategy (PBLIS). The focus of this review is to determine whether the current policies are an effective approach for promoting efficient landside operations at Port Botany.

Deloitte Access Economics was engaged by TfNSW to undertake research to understand the behavioural impacts of PBLIS to inform the independent review. TfNSW is seeking to understand the impact of PBLIS on the behaviour of stevedores, road operators and rail operators that have occurred as intended, did not occur as intended or any unintended impacts on behaviour

The aim of this research is to:

- Identify and explain specific behavioural changes that have resulted from the introduction of PBLIS
- Seek to identify if PBLIS has contributed to any specific behaviour changes or if these changes may have occurred without the introduction of PBLIS
- The drivers underpinning these behavioural changes
- Describe these behavioural changes by different industry segments

To understand the behavioural impacts of PBLIS, consultations were undertaken across the stakeholder groups. A total of 22 companies and organisations who interact with PBLIS were interviewed, including, 13 road operators, 3 rail operators, all 3 stevedores and 3 'other' participants. The consultations asked stakeholders to reflect inwards and focus on their organisational behavioural choices, and how PBLIS has impacted, or not impacted, their business operations and decisions. It is important to note that there are a number of other commercial factors operating in parallel with PBLIS, that also influence business decisions and organisational behaviour.

Through the interview process, a broad range of experiences and issues of PBLIS were shared. Through the analysis, six overarching behavioural themes emerged. These themes draw on shared experiences across different industry participants:

1. Road operators have focused on more direct trips into the terminal, and truck turnaround times (TTTs) have improved
2. Road operators are booking more slots than required as they maintain high demand for VBS slots at peak times
3. Rail operators are holding onto windows, and rail windows are being underutilised
4. Arriving within the VBS slot booking time zone has become the top priority for road operators
5. Stevedores have effectively incorporated PBLIS into their commercial and operational decisions and behaviours
6. Road operators continue to favour daytime operations

Background

Overview of PBLIS

Background of PBLIS

PBLIS was introduced in 2010 to improve the efficiency of the landside interface at the Port Botany container terminals. There are four pillars which PBLIS aims to achieve:



Efficiency



Consistency



Transparency



24/7 operations

These icons are used throughout this report to represent pillars of PBLIS that apply to a behavioural theme uncovered in the research.

The features of PBLIS that were introduced to achieve its objectives can be summarised into four categories:

- 1. Regulation of slot booking listings and cancellations.** A minimum number of slots every hour was imposed to provide transparency to transport operators.
- 2. Imposition of penalties for early or late arrivals and impose targets for truck turnaround times (TTTs)** to manage traffic in the port precinct. Penalties were introduced for both transport operators and stevedores for early, late and non-arrivals. This is monitored using number plate recognition to track when trucks enter and leave the ports. Penalties were also introduced to stevedores for not meeting TTT targets (e.g., \$25 every 15 minutes beyond TTT target).
- 3. Establishment of the truck marshalling area (TMA)** to manage early arrivals in the port, away from public roads which allows road carriers to manage their booking slots, avoid congestion and avoid receiving an early arrival penalty. It also provides an area in the event of a stevedore's unforeseen event.
- 4. Provision and management of service lines and enforcement of parking and stopping rules** around the port precinct which is supported by a sophisticated network of automated cameras.

As a result of the PBLIS scheme, TTTs have improved by 30% since its first year of operation, with an average of 32 minutes per vehicle. PBLIS combined with the truck marshalling area (TMA) has driven a reduction in congestion around the port precinct. Although there have been significant improvements, there continues to be challenges achieving 24/7 operations.

PBLIS Review

In 2021, Transport for NSW announced a comprehensive independent review by Ed Willett of the Ports and Maritime Administration Act 1995 (the Act) and the Port Botany Landside Improvement Strategy (PBLIS). The focus of this review is to determine whether the current policies remain the most effective approach for promoting efficient landside operations at Port Botany.

In particular:

1. The review of the Act will include an assessment of its policy objectives, and consideration of whether those objectives remain suitable. The review will then consider whether the Act requires any changes to deliver the policy objectives.
2. The review will consider:
 - Why PBLIS was introduced and what it was expected to achieve
 - What PBLIS has achieved to date (using data to the end of November 2021)
 - Whether PBLIS remains the best approach, and if so, whether the PBLIS arrangements are appropriate, and if not, what are the alternative options

Summary of PBLIS interactions

PBLIS outlines several regulatory interventions which are aimed at improving the efficiency of landside operations at Port Botany. These interventions have different implications for different participants across the supply chain and how they operate and make business decisions.

The four main components of how PBLIS interact with the three core participant groups in the Port Botany supply chain as summarised below.



Road operators

- PBLIS outlines requirements for road operators to comply with gate procedures, slot booking listings and cancellations, truck arrival times, and vehicle identification information requirements.
- Road operators are subject to penalties for early and late arrivals, 'no shows', cancellations, and failure to provide relevant operation details to stevedores.
- There are penalty exemptions for unforeseen events, stevedore impacted trucks, early arrivals (exemptions are granted if using the TMA for an early arrival), and cancellation of bookings (import and export cargo), among others.



Rail operators

- Under PBLIS, the Ministerial Direction regulates rail lift minimum servicing rates, charges and reciprocal rules on cancellation of windows.



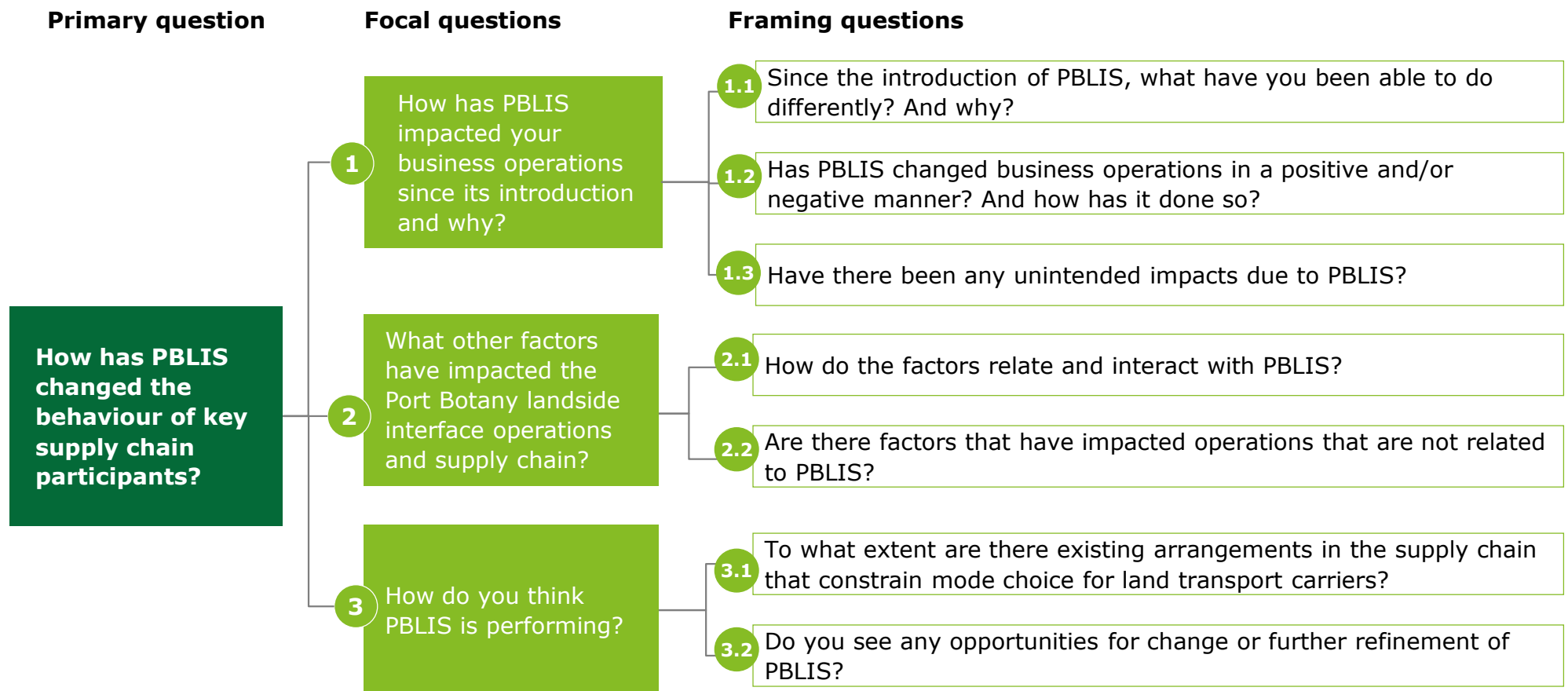
Stevedores

- PBLIS outlines requirements for container slot bookings and minimum number of slots, gate procedures, and associated operational performance measures.
- Stevedores are subject to penalties payable to the affected carrier for TTT underperformance, time zone cancellation, too few time slots offered, and truck non-service.
- There are penalty exemptions for unforeseen events, and minimum number of slots (among others).
- Stevedores are required to collect, keep, and provide truck and rail servicing records and data to TfNSW.

Overview of approach to stakeholder engagement

The consultations were conducted to gain a better understanding of how PBLIS has changed the behaviour (positively or negatively) of different participants across the supply chain and sought to identify any unintended consequences of the scheme. **The consultations focused stakeholders to reflect inwards and focus on their organisational behavioural choices, and how PBLIS has impacted, or not impacted, their business operations and decisions. It is important to note that there are a number of other commercial factors in parallel with PBLIS, that also influence business decisions and organisational behaviour.**

The diagram below outlines the approach to consultations to understand how PBLIS has changed or influenced decisions and operations. However, organisations tended to respond with their approach to business operations in response to PBLIS and other market factors.



Background and scope

Deloitte Access Economics was engaged by TfNSW to undertake research to understand the behavioural impacts of PBLIS to inform the independent review. TfNSW is seeking to understand the impact of PBLIS and the resultant change in behaviour of stevedores, road operators and rail operators. The aim of this research is to:

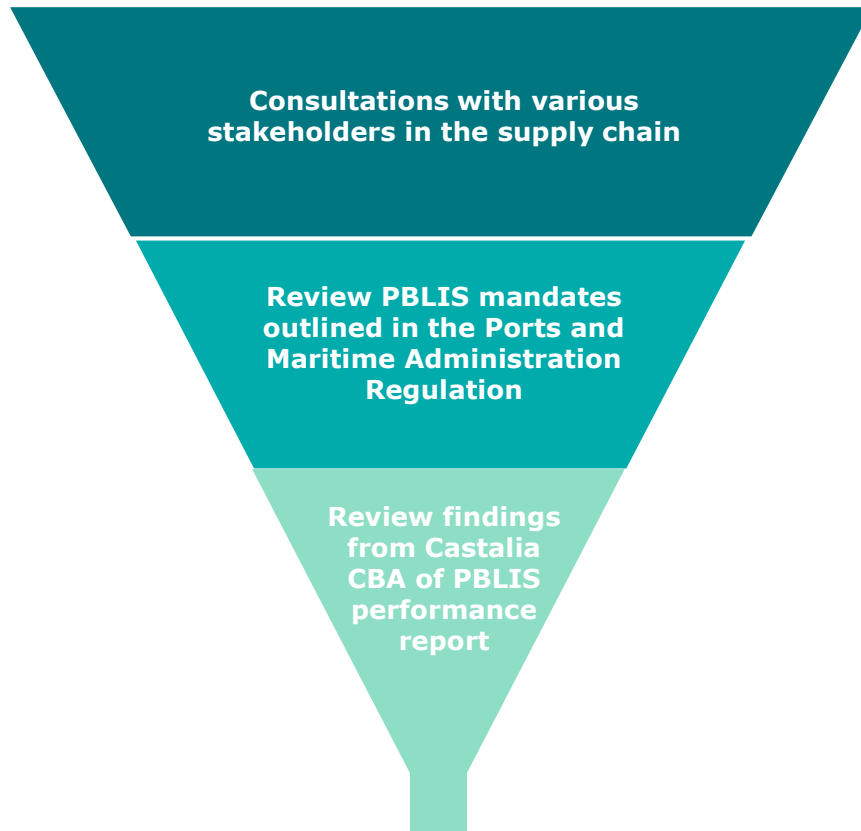
- Identify and explain specific behavioural changes that have resulted from the introduction of PBLIS
- Seek to identify if PBLIS has contributed to any specific behaviour changes or if these changes may have occurred without the introduction of PBLIS
- The drivers underpinning these behavioural changes
- Describe these behavioural changes by different key industry segments.

This research will contribute to understanding how the industry interacts with PBLIS and will inform the independent review of PBLIS. It will also be considered as part of the development of any potential policy options for improving the efficiency of Port Botany operations and the supply chain more generally.

The findings from this research will be used to inform the review of the performance of PBLIS to date as well as considering its suitability for the future of landside operations at Port Botany.



Overall approach



Understanding behaviour

A number of key research activities were undertaken:

- **Consultations with key stakeholder groups** were undertaken to understand the behavioural impacts of PBLIS. TfNSW provided Deloitte with a list of contacts as representatives from four key stakeholder groups, namely stevedores, rail operators, road operators and other stakeholders, including industry associations and port operators. Together, these stakeholder groups represent a diversity of operators at Port Botany. The consultations asked stakeholders to reflect inwardly on how PBLIS has impacted their organisational behaviour. It should be noted that there are a number of other factors and considerations that are parallel to PBLIS which also influence and impact business operations and behaviours. The complex operating environment also influences behaviour which required further analysis to identify key drivers related to PBLIS. It should also be noted that data analysis to support or validate the findings from consultations is outside the scope of this study. The overview of our approach to stakeholder engagement is outlined in page 7 and the discussion guide is included at Appendix A.
- Analysis of the **PBLIS mandates outlined in the Ports and Maritime Administration Regulation** were undertaken to understand which elements of the Act have impacted on behaviour
- A review of the **Castalia Cost Benefit Analysis (CBA) of PBLIS performance (2022)** was undertaken for any supporting quantitative analysis that may explain behaviour

A total of 22 consultations (of 42 approached) were conducted. A breakdown of consultation participants is below:



Road operators

Small n=4
Medium n=5
Large n=4



Rail operators

n=3



Stevedores

n=3



Other Stakeholders

n=3

Overview from industry

Through the consultation process, Deloitte Access Economics interviewed a diverse share of major stakeholders operating at Port Botany. By nature of their particular business operations and interactions, these participants frequently had different or opposing views on the effectiveness and impact of specific components of PBLIS. These views are given consideration and explored in detail in this report under six key themes (see Page 9).

Despite different contexts, this report identified a number of consistent attitudes towards the regulation. In particular, all participants agreed that PBLIS has generally had a positive impact on participant behaviour at, and in dealing with, Port Botany.

Industry noted that PBLIS regulation had resulted in a rapid and dramatic adoption of better, more sustainable data gathering and sharing practices. The availability of higher quality data has significantly improved visibility over port operations and has also substantially improved accountability for bad practice. Several participants noted that the data collected at Port Botany as a direct result of PBLIS has become the industry benchmark for other ports across Australia. Participants considered that these data collection practices could be expanded to include shipping lines and empty container parks (ECPs). The exclusion of these participants was perceived to have weakened efforts to improve overall visibility and contributed to bottle necks, such as long delays at ECPs, which can have significant downstream impacts.

Greater transparency and accountability in the form of financial penalties has altered the behaviour of all participants. While there have been improvements to on-time arrivals by truck operators and improvements in TTT by stevedores, stevedores have become more rigid and there has been a reduction of 'good will' as they incorporate the PBLIS rules into their operations. In particular, less leniency is shown to participants higher up the chain (usually in response to delays), since this would transfer liability, and potentially financial penalties.

Participants also generally agreed that there remains an imbalance of power between transport operators and stevedores. This imbalance creates tension within the port leading to behaviours creating inefficiencies, such as duplicated transport journeys to mitigate the impact of upstream delays. Some participants also suggested that that this imbalance perpetuates the dominance of road transport which is considered a more reliable and less risky mode of transport to rail, especially given the consequences of delays.

These issues and more are explored throughout the remainder of this report.



Key behavioural themes and drivers

Layout of the following slides

For each of the key themes, the drivers to behaviour were analysed to better understand why the behaviour was occurring, and which levers within the PBLIS mandates was causing this behaviour. Various pieces of analysis were undertaken to understand each driver, which has been presented in the format below.

The driver of behaviour

Overall summary of the findings from the various research activities

Synthesis of evidence from of the analysis

Supported in Consultations with:

Indicator of which of the stakeholders supports the driver of behaviour. Please note, that this analysis does not indicate the number of stakeholders that supported the driver



Road operators



Rail operators



Stevedores



Other stakeholders

Verbatim quotes from the consultations

Indicator of which PBLIS pillars are applicable to driving the behaviour

Efficiency	Consistency	Transparency	24/7 operations

Overview of which of the mandates in the Ports and Maritime Administration Regulation are driving the behaviour

Additional supporting evidence from Castalia CBA of PBLIS performance (2022)

Key Behavioural Themes

The consultation process uncovered six main behavioural changes as a result of PBLIS. The key drivers for each theme are discussed over the following pages as well as how they perform against each of the four PBLIS pillars.

1

Road operators have focused on more direct trips into the terminal, and TTTs have improved

PBLIS has delivered faster and more consistent truck turnaround times (TTT). More cycles have been conducted as a result of improved TTT efficiency and consistency. The number of cycles has also increased as PBLIS has not encouraged greater overall trip efficiency. Road operators are disincentivised from increasing container density and dual loading, even as volumes have grown.

2

Road operators are booking more slots than required as they maintain high demand for VBS slots at peak times

Road operators book more vehicle booking system (VBS) slots than they require, then return them after determining what they do and do not need, without incurring a penalty. Some road operators have adopted off-peak operations to avoid busy periods, but this is not feasible for all road operators, particularly smaller operators. This makes it challenging for those who need slots to plan appropriately, where some VBS slots are potentially hoarded.

3

Rail operators are holding onto windows, and rail windows are being underutilised

Rail operators often hold more windows than they utilise with the benefits of doing so outweighing the current costs. Regional rail operators often leave the port empty and reduce rail efficiency as they require significantly more time to split and shunt at the port. Stevedore behaviour has also been questioned with suggestions they often only meet minimum lift requirements and prioritise road over rail due to PBLIS penalties.

4

Arriving within the VBS slot booking time zone has become the top priority for road operators

The focus in PBLIS on turnaround times disincentivises trucks from using ECPs in case the truck is delayed and misses its slot at the port. There are also efficiencies that sit outside of PBLIS, such as stack runs, that can be deprioritised over PBLIS trucks. PBLIS has also increased the number of administrative tasks for all participants, including data collection and accuracy, and the administration required to pay or contest fines.

5

Stevedores have effectively incorporated PBLIS into their commercial and operational decisions and behaviours

Stevedores are meeting the minimum requirements under PBLIS including slots per hour and minimum lifts. However, there are increased pressures on terminal throughput due to larger ships and growing volumes. In some cases, trains are leaving empty with boxes being left behind. Stevedores have also utilised unforeseen events policies under PBLIS, creating a perception that this is to potentially avoid penalties. The efficiency of road has improved, but challenges remain for rail.

6

Road operators continue to favour daytime operations

The majority of participants in the supply chain from the port are not equipped or well positioned to service a 24/7 port. Not all ECPs provide 24-hour service. As a result, transport operators largely choose to not service overnight. In addition, many operators schedule their runs to deliver to customers and warehouses during their opening hours, which are generally during the day and on weekdays.

Behavioural Theme 1: Road operators have focused on more direct trips into the terminal, and TTTs have improved

Road operators have seen a reduction in TTTs and an improvement in TTT consistency. Although stevedore performance has improved, PBLIS has not incentivised other behaviours which would increase truck trip efficiency. The current structure of PBLIS rules disincentivises road operators from increasing container density, consecutive visits to different stevedores, and dual loading. The improved TTT and lack of dual loading may have led to an overall increase in the number of trips made to the Port under PBLIS.

Drivers of behaviour

Faster and more consistent TTTs

Container density per truck not at full capacity

Two way loading opportunities to avoid empty running not fully utilised

Use of multiple stevedores may have downstream impacts and is not covered under PBLIS

Behavioural Theme 1: Road operators have focused on more direct trips into the terminal, and TTTs have improved

Drivers of behaviour

Faster and more consistent TTTs

Summary of feedback

PBLIS has achieved its primary objective of reducing truck turnaround times (TTT) at the port. Many stakeholders have acknowledged that PBLIS has resulted in more consistent and improved turnaround times. PBLIS has reduced truck congestion around the port and the increased consistency of TTTs has allowed road operators to conduct more cycles to the port. These benefits have extended beyond those operators regulated by PBLIS, with other port operators, such as bulk liquid operators also benefiting from reduced congestion at the port.

"PBLIS has achieved its primary objective, reducing truck turnaround times."

"PBLIS has given us a lot more consistency in turnaround times. It has driven behaviours to ensure some consistency"

Supported in Consultations with:



Stevedores



Rail operators



Road operators



Other stakeholders

Synthesis of evidence

Long TTTs and associated truck queues were the key motivating factor for the original intervention to establish PBLIS. This is reflected in the fact that TTTs are a focus of multiple sections of PBLIS legislation. The legislation works to incentivise improved TTT by applying penalties for poor performance by both road operators and stevedores as well as formalising the requirements for booking slots - allowing stevedores to better prepare for truck arrivals. This combination of financial and operational restrictions has had the intended effect and has strongly driven behaviour towards reduced and consistent TTTs.

The reduction in TTT directly affected road operator behaviour by enabling more trips to be completed each day than would have been the case without PBLIS. Stevedores reflected that the introduction of PBLIS has encouraged trucks to turn up on time, as well as shorter truck queues, which has supported greater efficiency.

PBLIS pillars applicable



Efficiency



Consistency



Transparency



24/7 operations

Behavioural Theme 1: Road operators have focused on more direct trips into the terminal, and TTTs have improved

Faster and more consistent TTTs

Components of PBLIS driving behaviour	Ref
Stevedore Impacted Trucks	B.11
Early Arrivals	B.12.3
Truck servicing	C.13
Cancellation of Time Zones	C.14.4
Minimum number of slots per hour	C.15.1
Unforeseen events	C.15.3
Manifesting across multiple Time Zones	C.16.1
Regulation of charges	D
Determining certain matters for these mandatory standards (e.g., TTT, minimum number of slots, Truck Trips)	D

Supporting evidence from Castalia CBA of PBLIS performance (2022)	Page
TTTs down from an average of 32.1 minutes in 2011 to 30.6 minutes in 2021, a 4.7 per cent improvement"	14

Behavioural Theme 1: Road operators have focused on more direct trips into the terminal, and TTTs have improved

Drivers of behaviour

Container density per truck not at full capacity

Summary of feedback

Despite significant increases in container volumes and vehicle size, container density has not improved and there is opportunity to increase truck efficiency. The current VBS process makes it difficult to book multiple slots in the same time zone and road operators would like ECP delays to be considered for late arrivals. Although some road operators use ECPs, there is a lack of data on utilisation and ECP returns prior to import movements. Road operators report that there are challenges to conduct export tagging and drop off multiple containers at the same time. Stevedores also reflected that despite HPVs being more common, container density hasn't changed.

"The number of HPVs is growing quickly, but the trucks need to do more. We can't just have trucks which are running half empty all the time."

"Despite HPVs being much more common, container density hasn't changed much. You can't get multiple slots to drop off multiple containers at the same time."

Supported in Consultations with:



Stevedores



Rail operators



Road operators



Other stakeholders

Synthesis of evidence

Density refers to the number of containers carried per truck. A B-double, for example, can carry up to 3 TEU in both directions. At peak efficiency, a truck would travel to Port Botany with a combination of empty containers and export containers, drop these off (either at a Port empty container park or direct to terminal) and then leave Port Botany with full import containers. Carrying more containers significantly increases the complexity of a truck's journey and could involve some combination of visiting multiple pick-up locations, multiple empty container parks, multiple stevedores and multiple drop off locations. However, even in the simplest case, where a truck wants to pick up two containers from a single stevedore, limitations in the VBS (such as road operators rushing to book slots) can make it challenging to book multiple slots at the stevedore, either in the same or consecutive time zone, to pick up multiple containers.

There is also much more that can go wrong during a complex, high-density trip. When this is combined with the strong financial incentives around on-time arrival, this creates a situation where road operators see benefit in focussing on simpler and easier-to-manage movements at lower container densities. Combined with the broader trend of more containers moving through the port, this necessarily means that PBLIS has increased the total number of trips to the port and has shifted operations more strongly towards direct trips and staged deliveries to reduce complexity.

PBLIS pillars applicable



Efficiency



Consistency



Transparency



24/7 operations

Behavioural Theme 1: Road operators have focused on more direct trips into the terminal, and TTTs have improved

Drivers of behaviour

Container density per truck not at full capacity

Components of PBLIS driving behaviour	Ref
Cancellation of slots	B.8
Carrier booking and listing	B.9
Stevedore Impacted Trucks	B.11
Truck servicing	C.13
Slot bookings	C.15.2
Cancellation of Time Zones	C.14.4
Minimum number of slots per hour	C.15.1
Unforeseen events	C.15.3
Regulation of charges	D
Determining certain matters for these mandatory standards (e.g., TTT, minimum number of slots, Truck Trips)	E

Supporting evidence from Castalia CBA of PBLIS performance (2022)	Page
"Container density (containers carried per truck) has barely changed since 2011, suggesting that there has also been no improvement".	vii
"Historical data suggests that container densities have not changed significantly, increasing only by 5.6 per cent between 2011 and 2021 (annual averages)."	24

Behavioural Theme 1: Road operators have focused on more direct trips into the terminal, and TTTs have improved

Drivers of behaviour

Two way loading opportunities to avoid empty running not fully utilised

Summary of feedback

The current PBLIS rules disincentivise dual loading/two way running. The risk of a PBLIS fine due to late arrival means road operators are less likely to plan a dual run. Many stakeholders agree container density has not improved despite the improved TTT. During the consultations, road operators reported that the introduction of PBLIS has also seen the removal of export tagging at one stevedore. Many stakeholders agree that dual loading would improve efficiency, but meeting slot bookings to avoid fines is a key priority for road operators.

Synthesis of evidence

Two way loading is most efficient for road operations as empty trucks are not run, but rather are able to drop off an empty before picking up an import or deliver an export container. PBLIS has introduced penalties for road operators if they arrive early, late or for no shows. Dual loading can make trips more complex where delays dropping off an export container can result in trucks arriving late at their next slot. Road operators are therefore at risk of being fined if they are late to their slot due to upstream impacts. In addition, upstream impacts from other stevedores and ECPs are not covered under PBLIS.

While the industry would like to see an increase in density and the use of HPVs, road operators are not incentivised to utilise dual loading due to the risk of being fined. Road operators are running empty trucks to simplify their trips as they prioritise making their time slots.

One stevedore was taking regular phone calls from a carrier to try and facilitate dual running on Direct Return Empties (DREs), but it was subject to the carrier contacting the terminal to try to make this happen.

"You'd like to see empties being brought in before pickups, but trucks are struggling to do this and meet their timings consistently."

"[Stevedore] used to let you tag an export in. We've had times when we've now had to take exports in and take nothing out."

Supported in Consultations with:



Stevedores



Rail operators



Road operators



Other stakeholders

PBLIS pillars applicable



Efficiency



Consistency



Transparency



24/7 operations

Behavioural Theme 1: Road operators have focused on more direct trips into the terminal, and TTTs have improved

Drivers of behaviour

Two way loading opportunities to avoid empty running not fully utilised

Components of PBLIS driving behaviour	Ref
Cancellation of slots	B.8
Carrier booking and listing	B.9
Stevedore Impacted Trucks	B.11
Truck servicing	C.13
Cancellation of Time Zones	C.14.4
Minimum number of slots per hour	C.15.1
Slot bookings	C.15.2
Manifesting across multiple Time Zones	C.16.1
Regulation of charges	D
Determining certain matters for these mandatory standards (e.g., TTT, minimum number of slots, Truck Trips)	E

Behavioural Theme 1: Road operators have focused on more direct trips into the terminal, and TTTs have improved

Drivers of behaviour

Use of multiple stevedores may have downstream impacts and is not covered under PBLIS

Summary of feedback

PBLIS has not acted as a whole of port solution. As the Stevedore Impacted Truck rules do not take into account that trucks do not always return to the same stevedore, this disincentivises road operators from booking consecutive slots at different stevedores. If a road freight operator is delayed at one stevedore, they risk being fined at another (e.g., drop off an export box at one stevedore and pick up an import box at another). Therefore, road operators are running half empty trucks and not utilising dual loading, to avoid being fined.

Synthesis of evidence

The PBLIS mandates that were implemented in relation to the VBS slot system and penalties for early, late arrivals or no shows, aims to support truck efficiency. The VBS allows road operators to book which slots they need at each stevedore, maximising their opportunity in a single trip to pick up and drop off boxes.

Using multiple stevedores and booking consecutive slots is a common practice by road operators, and under PBLIS rules should incentivise dual loading by improving TTT and allowing road operators to book and organise appropriate slots. However, if they are delayed at one stevedore, road operators are at risk of being fined if they are late to their slot. Current PBLIS rules do not take into consideration the downstream impacts of using multiple stevedores. Therefore, road operators would rather conduct a more simple, single run to avoid being delayed at one stevedore and fined at the next one. In addition, this also leads to road operators running multiple trucks on single runs.

"PBLIS is a Stevedore solution not a whole of wharf solution."

"It doesn't take into account that a truck doesn't always go back to the same stevedore consecutively"

Supported in Consultations with:



Stevedores



Rail operators



Road operators



Other stakeholders

PBLIS pillars applicable



Efficiency



Consistency



Transparency



24/7 operations

Behavioural Theme 1: Road operators have focused on more direct trips into the terminal, and TTTs have improved

Drivers of behaviour

Use of multiple stevedores may have downstream impacts and is not covered under PBLIS

Components of PBLIS driving behaviour	Ref
Stevedore Impacted Trucks	B.11
Unforeseen events	B.12.1
Truck servicing	C.13
Cancellation of Time Zones	C.14.4
Unforeseen events	C.15.3
Regulation of charges	D
Determining certain matters for these mandatory standards (e.g., TTT, minimum number of slots, Truck Trips)	E

Behavioural Theme 2: Road operators are booking more slots than required as they maintain high demand for VBS slots at peak times

The Vehicle Booking System (VBS) under PBLIS allows operators to return slots to the system within a defined period of time if a timeslot is no longer required. Whilst this is intended to maximise the use of available slots, an unintended consequence is that it encourages overbooking and hoarding. As a result of overbooking, road operators who are unable to book enough time slots or slots at their preferred time must monitor the system for returned slots. In many cases, road operators cannot react quickly enough to a re-opened slot and therefore, slots are underutilised.

Drivers of behaviour

Overbooking and hoarding slots

Slot cancellations 24 hours prior to booking time incur no penalty

High demand for slots during preferred times

Coordination requirements constrain the ability to improve slot booking systems

Behavioural Theme 2: Road operators are booking more slots than required as they maintain high demand for VBS slots at peak times

Drivers of behaviour

Overbooking and hoarding slots

Summary of feedback

PBLIS has not been effective at reducing slot hoarding. The vehicle booking system (VBS) under PBLIS does not restrict road operators from booking more slots than are actually needed. Road operators will book more slots than they need in order to mitigate personal risk and ensure they have the slots to meet their operational needs, however this is at the cost of overall efficiency of the system. While an efficiency measure, the PBLIS rules on the ability to return slot without penalty prior to 24 hours or to list slots without penalty if taken up, has allowed this behaviour. In addition, road operators are perceived to be hoarding slots which takes them out of the market even if they may not be utilised.

"It's a 'grab what you can' system rather than a 'demand and supply' system (referring to booking of slots)."

"We spend all day booking random slots."

Supported in Consultations with:



Stevedores



Rail operators



Road operators



Other stakeholders

Synthesis of evidence

Allowing road operators to return slots to the system is intended to be an efficiency measure. In the absence of this system, slots that are no longer required are otherwise wasted resulting in an underutilisation of slots. However, this flexibility encourages road operators to book more slots than they might need since they can be easily returned to the pool without financial penalty (see slide 27). Some road operators suggested an "advanced bookings" system whereby slots could only be booked for containers that have been discharged and are available at terminal.

There is also not enough incentive to return these slots quickly. Since road operators have difficulty getting slots after the initial scramble, they are inclined to hold slots until the very last moment as an option, should scheduling need to change. The system of returns is discussed on slide 27.

Overbooking of slots is not unique to Port Botany and it cannot be suggested that PBLIS is responsible for this behaviour, although it may indeed exacerbate it. The Strategic Review of Victorian Empty Container Supply Chain also indicated that 'hedging of bets' by overbooking slots is an operational issue within Victorian ports as well.¹

PBLIS pillars applicable



Efficiency



Transparency



Consistency



24/7 operations

1. NineSquared (2021), Strategic Review of the Victorian empty container supply chain, commissioned by Victorian Department of Transport, <<https://transport.vic.gov.au/-/media/tfv-documents/victoria-empty-container-supply-chain-review.pdf?la=en&hash=23216AEC526BA5F4F6CE80B1901231A0>>

Behavioural Theme 2: Road operators are booking more slots than required as they maintain high demand for VBS slots at peak times

Drivers of behaviour

Overbooking and hoarding slots

Components of PBLIS driving behaviour	Ref
Cancellation of slots	B.8
Carrier booking and listing	B.9
Minimum number of slots per hour	C.15.1
Slot bookings	C.15.2
Manifesting across multiple Time Zones	C.16.1

Supporting evidence from Castalia CBA of PBLIS performance (2022)	Page
"Road carriers expressed desire for stevedores to release more slots during peak hours to avoid a 'scramble' for slots."	20

Behavioural Theme 2: Road operators are booking more slots than required as they maintain high demand for VBS slots at peak times

Drivers of behaviour

Slot cancellations 24 hours prior to booking time incur no penalty

Summary of feedback

Road operators can cancel a slot 24 hours prior to the allocated time without incurring a penalty. This lengthens the process for all road operators in booking their required slots as they must continually monitor the VBS in case more slots open or slots at more suitable times are returned to the system. This also means that returned slots are often underutilised as operators cannot adjust their operations on short notice. Some small road operators are perceived to also be coordinating to take slots from one another as they put them back into the pool.

Section 8 and 9c of the PBLIS mandatory standards outline the process of returning slots to the VBS. Slots can be returned to the system up to 24 hours prior without penalty, irrespective of whether the slot is taken up by another road operator, or returned up to 12 hours prior, if the slot is taken by another operator.

The absence of a penalty for engaging in overbooking or hoarding of slots (discussed on slide 25) occurs in the absence of penalties or restrictions for returning slots to the system. Whilst intended to optimise the full allocation of stevedore slots, the ability to return slots to the VBS without penalty incentivises road operators to hold more slots for longer.

Instead of having an effective, initial allocation, the ability to cancel slots creates administration and logistical complications for road operators who need to constantly monitor the VBS in case additional slots are returned to the system. This task is costly in terms of personnel but also results in logistical adjustments needing to occur on short notice (24 hours) in order to utilise the full allocation. As such, some stevedore slots are being underutilised, as road operators struggle to adjust operations within this short window of time.

This system also introduces some equity and fairness concerns. Some road operators claim that participants (particularly small operators) will often notify other similar road operators prior to returning a slot to the system, allowing the notified party an advantage in picking up the slot. Whilst this was considered a rectification of the market power that larger operators wield, this type of behaviour is perceived to be non-transparent and inefficient.

Synthesis of evidence

"[Operators] should be charged as soon as the slot is booked so people don't book everything available and cancel later."

"Bigger carriers are booking a lot more than what they need."

Supported in Consultations with:



Stevedores



Rail operators



Road operators



Other stakeholders

PBLIS pillars applicable



Efficiency



Consistency



Transparency



24/7 operations

Behavioural Theme 2: Road operators are booking more slots than required as they maintain high demand for VBS slots at peak times

Drivers of
behaviour

Slot cancellations 24 hours prior to booking time incur no penalty

Components of PBLIS driving behaviour	Ref
Cancellation of slots	B.8
Carrier booking and listing	B.9
Minimum number of slots per hour	C.15.1
Slot bookings	C.15.2

Supporting evidence from Castalia CBA of PBLIS performance (2022)	Page
"Road carriers would prefer to see stevedores increase their capacity to service more trucks at peak periods while minimising the variations in TTT."	21

Behavioural Theme 2: Road operators are booking more slots than required as they maintain high demand for VBS slots at peak times

High demand for slots during preferred times

Drivers of behaviour

Summary of feedback

The overbooking of slots results in an inefficient allocation since stevedores may face a congested allocation of slots, rather than a staggered allocation of slots that allows a single truck to operate multiple trips. This results in more trucks on road at peak times, since operators may only have a short period to conduct their movements. Road operators and stevedores report that demand for slots is still focused in the morning and on weekdays, and slots are being underutilised at night and on weekends. In addition, there are limited rail windows which do not provide relief for slot demand issues on the road.

"We are constantly on the phone pleading with the Stevedore to allocate more slots."

"As a small to medium player it is a break on your business. If you are allocated four spots per zone, it's not enough to get the job done."

Supported in Consultations with:



Stevedores



Rail operators



Road operators



Other stakeholders

Synthesis of evidence

The slots that are most subject to hoarding are those in peak hours that suit the most road operators. This adds to the frustration experienced by the sector and contributes to the perception among road operators that stevedores are not allocating enough slots at the busiest times.

The scramble to allocate slots also means that road operators are unable to get slots at the right times. Ideally, a road operator would be able to book slots staggered throughout the day and allow the truck/driver to perform multiple trips within a shift. What often happens instead is that a road operator can only book consecutive time zones, or time zones that are too close in proximity to allow the same resources to be used. This requires an additional truck(s) and driver(s) to ensure that the slots are met, and delays and penalties do not accrue.

The congestion of slots around peak times still occurs despite efforts to spread stevedore operations. This is due to there being limitations on opening hours at upstream supply chain facilities including ECPs and customers (discussed in Theme 6). To make full use of after-hours and weekend slots, road operators need to stage deliveries, which requires access to storage facilities. The cost of staging is either absorbed by the road operator or passed on to customers.

PBLIS pillars applicable



Efficiency



Consistency



Transparency



24/7 operations

Behavioural Theme 2: Road operators are booking more slots than required as they maintain high demand for VBS slots at peak times

Drivers of behaviour

High demand for slots during preferred times

Components of PBLIS driving behaviour	Ref
Cancellation of slots	B.8
Carrier booking and listing	B.9
Stevedore Impacted Trucks	B.11
Truck servicing	C.13
Minimum number of slots per hour	C.15.1
Manifesting across multiple Time Zones	C.16.1

Supporting evidence from Castalia CBA of PBLIS performance (2022)	Page
"Road carriers would prefer to see stevedores increase their capacity to service more trucks at peak periods while minimising the variations in TTT."	21

Behavioural Theme 2: Road operators are booking more slots than required as they maintain high demand for VBS slots at peak times

Drivers of behaviour

Coordination requirements constrain the ability to improve slot booking systems

Summary of feedback

The rigidity of PBLIS has entrenched some outdated systems and practices and created a reluctance to collaborate with stevedores and other terminal operators to improve or replace inefficient methods. The current system leads to road operators grabbing as many slots as they can and releasing them back 24 hours prior to the booked slot, which may not be enough time for other road operators to utilise these slots. Although some stevedores are trying to innovate, it may be challenging for them to coordinate their approach. The lack of innovation is, in part, due to increased accountability in the event a delay occurs.

"PBLIS has made it more difficult to have conversations about operational change and efficiency."

"There are players who are trying to innovate and develop better booking systems, but we are stuck with the current arrangement."

Supported in Consultations with:



Stevedores



Rail operators



Road operators

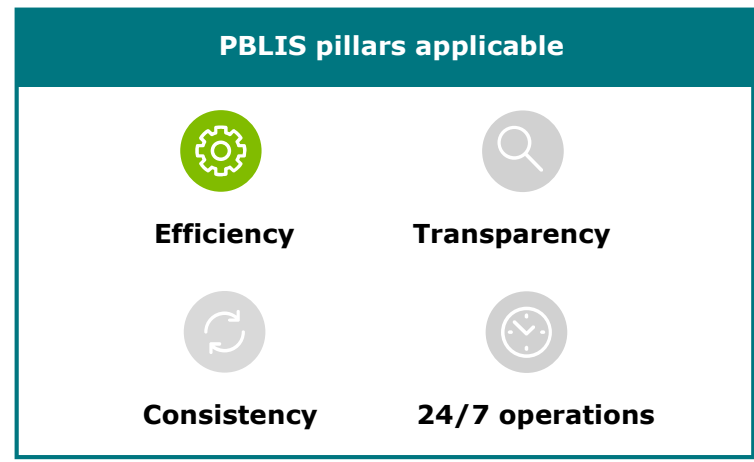


Other stakeholders

Synthesis of evidence

The system of financial penalties that can accrue to stevedores and road operators disincentivises them from trying new approaches or operating collaboratively. The arrangements set through PBLIS have resulted in stakeholders holding back on innovating and improving their service offerings. Instead of looking to innovate or adopt new technology, road operators are also concerned that taking initiative and changing systems will make them accountable for fines and delays.

Road operators indicated that there have been several attempts by various companies to innovate and improve existing systems (particularly in relation to slot allocations and bookings). However, the process of implementing new initiatives comes with risks, such as failing to meet requirements or delivering inefficiently. Therefore, the fear of cascading financial penalties is sufficient to dissuade such actions should the technology require significant testing. As such, old systems and habits become engrained in the process.



Behavioural Theme 2: Road operators are booking more slots than required as they maintain high demand for VBS slots at peak times

Drivers of
behaviour

Coordination requirements constrain the ability to improve slot booking systems

Components of PBLIS driving behaviour	Ref
Cancellation of slots	B.8
Carrier booking and listing	B.9
Regulation of charges	D
Determining certain matters for these mandatory standards (e.g., TTT, minimum number of slots, Truck Trips)	E
Invoicing of financial penalties	G

Behavioural Theme 3: Rail operators are holding onto windows, and rail windows are being underutilised

Rail operators are perceived to be holding more windows than they utilise with the benefits of this practice outweighing the current costs. Regional trains need to split and shunt into multiple terminals impacting overall window utilisation. Stevedore behaviour has also been questioned by rail operators with suggestions they will often only meet minimum lift requirements and prioritise road over rail due to PBLIS penalties. Although stevedores do not agree with this view, they do believe capped lift rates have not incentivised investment in rail. Together, these drivers have contributed to lower rail efficiency.

Drivers of behaviour

Window sitting

Rail operator behaviour is largely unaffected by PBLIS

Regional container trains are not at full capacity, impacting overall window utilisation

Road is prioritised over rail

Behavioural Theme 3: Rail operators are holding onto windows, and rail windows are being underutilised

Drivers of behaviour

Window sitting

Summary of feedback

To avoid losing windows, rail operators may hold more windows than they use, or cancel them at the last minute (48 hours out) when it is too late for another operator to utilise the window. Rail and road operators utilising rail reported that in some cases rail operators may be sitting on windows at all three port terminals simultaneously. Rail operators report doing this as a contingency plan in the event their volumes require it. These behaviours are driven by the low cost of window booking, cancellation rules and the difficulty in finding a window which aligns with paths through the passenger network. There is also a perception by stevedores and other rail operators that rail operators are holding windows to block out other competitors from using the window. Therefore, rail operators may prefer to keep their windows whilst not utilising them fully. The price of paying for a window is much less than the cost of losing a window and never getting it back. As a result, there is a shortage of windows, however at the same time, utilisation and allocation data from stevedores and other stakeholders show that windows are being underutilised. This also impacts the further take up of rail by road operators and others. Some stevedores would like to see more a more dynamic rail window environment, whereby trains are able to show up and be immediately serviced.

"Because the price is fixed so low, the cost of paying for a window you don't use is far less than the risk of losing it and never getting it back."

"You can't have rail providers having windows at all three ports."

"Rail operators may send in a train with only 10 lifts on it, to block a competitor to recycle that window. "

Synthesis of evidence

A 2011 Ministerial Direction under the PAMA Regulation provides rules on the treatment of rail such as minimum lifts and window cancellation. Under the direction, rail windows are able to be cancelled up to 48 hours out from the window without incurring a penalty.

Penalties for not utilising a window are not a strong enough incentive for rail operators to give back the window, particularly when compared to the risk of losing the window all together for future operations. Therefore, rail operators are holding onto their windows, even in instances where they are holding consecutive windows across multiple stevedores. By holding onto their windows, rail operators can also block competitors from using these windows and providing services for their customers. It is challenging for rail operators to find windows aligned with their paths, therefore, they may hold windows even if they are not being utilised as a contingency booking, where volumes change regularly.

To avoid losing windows, rail operators are running near empty trains or paying the low fees to keep the windows. In addition, the 48-hour cancellation period does not provide sufficient time for other rail operators to appropriately align their operations and utilise the window.

As a result, there is a shortage of windows at the port, however an underutilisation of windows overall. This also impacts to the take up of rail, where finding a window to line up with their path is challenging.

Supported in Consultations with:



Stevedores



Road operators



Rail operators



Other stakeholders

Behavioural Theme 3: Rail operators are holding onto windows, and rail windows are being underutilised

Drivers of behaviour

Window sitting

PBLIS pillars applicable



Efficiency



Consistency



Transparency



24/7 operations

Components of Ministerial Direction driving behaviour

Ref

Charges per lift (\$15 per lift, \$30 after the minimum lifts)

1.A

Rail windows cancellation (48 hours prior)

4

Behavioural Theme 3: Rail operators are holding onto windows, and rail windows are being underutilised

Drivers of behaviour

Rail operator behaviour is largely unaffected by PBLIS

Summary of feedback

Stevedore lift rates have improved. The introduction of PBLIS hasn't changed how rail operators conduct their business. However, challenges elsewhere in the supply chain, including vessel availability and volume, can have a cascading effect on rail. For instance, rail operators often have to stage their boxes, which leads to increased costs, due to vessels being unavailable or there being uncertainty around their availability.

"Haven't changed operations due to PBLIS, its mainly due to road"

"The way rail is treated isn't being influenced by PBLIS, more the market structure and competitive landscape between shipping lines and stevedores"

"Everything is up in the air at the moment, depends on the vessels, documents, customers"

Analysis

The ministerial direction under PBLIS dictates a minimum charge per lift by stevedores. This has improved overall lift rates for rail operations and stevedores are consistently delivering more than the minimum lift rate, however not more than the total number of lifts per window. Therefore, often containers may be left on trains after the minimum is achieved. There are still multiple challenges for rail. In particular, the introduction of PBLIS has implemented penalties and mandates for stevedore road performance, and therefore caused their focus to shift towards road. As a result, efficiency of rail operations have not been largely affected by PBLIS.

However, impacts elsewhere in the supply chain have had cascading effects on rail operators, often resulting in increasing costs and reduced reliability and efficiency of rail. For instance, there is sometimes uncertainty around the availability of vessels, which makes it difficult for rail operators to appropriately plan their operations. In addition, if something happens to road, this is prioritised over rail, and delays by stevedores and passenger trains can also cause issues.

Supported in Consultations with:



Stevedores



Rail operators



Road operators



Other stakeholders

PBLIS pillars applicable



Efficiency



Consistency



Transparency



24/7 operations

Behavioural Theme 3: Rail operators are holding onto windows, and rail windows are being underutilised

Drivers of behaviour

Rail operator behaviour is largely unaffected by PBLIS

Components of PBLIS and Ministerial Direction driving behaviour	Ref
Minimum lifts per hour	1.A
Charges per lift	1.A

Supporting evidence from Castalia CBA of PBLIS performance (2022)	Page
"To the extent that PBLIS assists in the decongestion of traffic around the port, it may make truck transport more attractive and hence, all things being equal, tip the choice away from rail and in favour of roads."	45

Behavioural Theme 3: Rail operators are holding onto windows, and rail windows are being underutilised

Drivers of behaviour

Regional container trains are not at full capacity, impacting overall window utilisation

Summary of feedback

Regional export trains bring exports to the port, but do not load import containers. The splitting and shunting of long regional trains into multiple terminals also takes up window capacity at the port and impacts lift time (up to half the window). This impacts overall port and window productivity, as well as the total number of windows offered or available. Metro rail operators and stevedores suggest regional rail operators run their longer trains to metro IMTs with a transfer on to a dedicated 600m shuttle. This would avoid splitting at the port and drive improved two way loading with the shuttles fully loaded both ways supporting overall rail mode share.

"You also need to stop exporters going in with exports only."

"There's almost a quarter of each 24-hour period wasted for shunting. You could probably double the volume moving on rail if you stopped exporters going in and pulling nothing out."

Supported in Consultations with:



Stevedores



Rail operators



Road operators



Other stakeholders

Synthesis of evidence

The PBLIS requires minimum lifts per hour for trains and charges per lift. To fully utilise rail windows, trains can bring export containers to the port and pick up import containers for the return journey. However, it takes significant time for splitting and shunting, often 2-3 hours which is half of the window time. Therefore, trains are regularly returning not at full capacity in order to remain on schedule, bringing down the overall efficiency of the rail network and windows. In addition, this is exacerbated by the window behaviour discussed earlier. Stevedores and rail operators would like to see fewer regional trains breaking in terminals where it may negatively impact productivity.

PBLIS pillars applicable



Efficiency



Consistency



Transparency



24/7 operations

Behavioural Theme 3: Rail operators are holding onto windows, and rail windows are being underutilised

Drivers of
behaviour

Regional container trains are not at full capacity, impacting overall window utilisation

Components of Ministerial Direction driving behaviour	Ref
Minimum lifts per hour (36 per hour)	1.A
Charges per lift (\$15 per lift, \$30 after the minimum lifts)	1.A

Behavioural Theme 3: Rail operators are holding onto windows, and rail windows are being underutilised

Drivers of behaviour

Road is prioritised over rail

Summary of feedback

Rail and road operators suggest that PBLIS has decreased the relative importance of rail and that the balance between shipping lines and landside may not be equal. For stevedores, servicing shipping lines remains the top commercial priority followed by road (as per PBLIS), with rail coming in last. Due to the PBLIS fines, there is a perception that stevedores have shifted their focus towards road. In addition, the capped lift rates for rail are not enough incentive for stevedores to prioritise rail or to encourage innovation for the rail side. Stevedores don't necessarily agree that they prioritise road, however PBLIS has had a commercial effect on their operations. In addition, trucks are more convenient to service over rail.

Synthesis of evidence

The introduction of PBLIS included performance measures for stevedores and road operators, as well as the introduction of fines for not meeting these requirements. Road operators are fined for early arrivals, late arrivals or no shows, and stevedores may face penalties for not meeting TTT times or servicing trucks. The risk of being fined has resulted in stevedores shifting their focus towards road to ensure they meet the performance standards. PBLIS also mandates stevedores to service trucks and provide a minimum number of slots. In addition, there is not a strong enough incentive for stevedores to prioritise rail relative to road with the current capped lift fees. This shift in focus has led to the perception that road is prioritised over rail.

"Pre-PBLIS, the priority was ship-rail-road. Now its ship-road -rail."

"In terms of what hasn't been achieved, rail hasn't fared as well as road. From a stevedore's perspective, the focus went from being primarily focused on ships, to also focusing on road due to the PBLIS penalties. This means that stevedores now prioritise ships 1st, road 2nd and rail 3rd."

"I think it means there hasn't been any innovation, what's the point? It's \$15? Rather than innovating"

Supported in Consultations with:



Stevedores



Rail operators



Road operators



Other stakeholders

PBLIS pillars applicable



Efficiency



Consistency



Transparency



24/7 operations

Behavioural Theme 3: Rail operators are holding onto windows, and rail windows are being underutilised

Drivers of behaviour

Road is prioritised over rail

Components of PBLIS and Ministerial Direction driving behaviour	Ref
Truck services	C.13
Regulation of charges	D
Determining certain matters for these mandatory standards (e.g., TTT, minimum number of slots, Truck Trips)	E
Invoicing of financial penalties	G
Minimum lifts per hour (36 lifts per hour)	1.A

Behavioural Theme 4: Arriving within the VBS slot booking time zone has become the top priority for road operators

Truck turnaround times within the port have improved significantly, although the rigidity of the system has created duplication, reduced leniency and increased administrative costs. Road operators are hesitant to fully utilise ECPs before a stevedore slot unless TTT and reliability within the ECPs are improved, reducing the risk of a PBLIS penalty. Other internal movements, such as stack runs, can have their efficiencies impacted by the focus on PBLIS truck movements. Penalties and reporting have a direct financial cost as well as an indirect cost associated with more administrative duties.

Drivers of behaviour

TTT in ECPs not covered under PBLIS

Slot rigidity constrains flexibility

PBLIS trucks are prioritised over stack runs

Reporting requirements add to administrative impost

Behavioural Theme 4: Arriving within the VBS slot booking time zone has become the top priority for road operators

Drivers of behaviour

TTT in ECPs not covered under PBLIS

Summary of feedback

Road operators are reluctant to use ECPs enroute to the port. Whilst port efficiency such as TTT has been improved with the introduction of PBLIS, ECPs are not covered under PBLIS. Therefore, efficiency and reliability within ECPs are still a challenge. This undermines potential benefits since operators do not want to risk missing a slot at the port terminal or risk receiving a fine due to delays at the ECP. Road operators therefore prefer to make direct trips to the port.

"The less I can double handle empties the better. However, there are challenges with getting the timing to align. The reality is you have to double handle some empties, you can't de hire them all direct."

"PBLIS might penalise you if complications while dropping of the empty box make you late for your slot to pick up an import box."

Synthesis of evidence

The benefits of empty container parks for overall port efficiency are enhanced when they are used as an effective way of staging returns into the port precinct for road operators who are enroute to the terminals to collect an import or drop off a full export or even DRE. Whilst this can complicate trips and requires additional handling time, appropriate scheduling and operation of empty container parks can significantly reduce total port road congestion and deliver the efficient management of empty containers at the port. However, the frequency of delays reduces the incentive to stage empty returns enroute to the port terminals due to the risk of penalties associated with delays returning containers at ECPs.

Evidence from the Empty Container Supply Chain Study supported the views expressed in consultation. The study reported that road operators frequently experience delays at ECPs that often result in penalties for no shows at the ports. Furthermore, the report highlighted the frustration among road operators around the limited resources to request reimbursement for no shows at ECPs.¹

Supported in Consultations with:



Stevedores



Rail operators



Road operators



Other stakeholders

PBLIS pillars applicable



Efficiency



Consistency



Transparency



24/7 operations

1. NineSquared (2020), Empty container supply chain study, <<https://www.transport.nsw.gov.au/system/files/media/documents/2020/empty-container-supply-chain-study-web.pdf>>

Behavioural Theme 4: Arriving within the VBS slot booking time zone has become the top priority for road operators

Drivers of behaviour

TTT in ECPs not covered under PBLIS

Components of PBLIS driving behaviour	Ref
Determining certain matters for these mandatory standards (e.g., TTT, minimum number of slots, Truck Trips)	E

Behavioural Theme 4: Arriving within the VBS slot booking time zone has become the top priority for road operators

Drivers of behaviour

Slot rigidity constrains flexibility

Summary of feedback

The enhanced monitoring has made supply chain participants less likely to accept delays from upstream since any leniency can cascade into a significant financial penalty. While the VBS allows road operators to book more slots than they need, there is still rigidity around slot times, which means that often additional resources (i.e., trucks and drivers) are deployed to mitigate the risk of delays, which impacts flexibility and two-way loading. The TMA is being used for early arrivals by some road operators prior to time zone opening, but is typically underutilised once the next time zone is opened, with some carriers also still parking outside the port precinct instead. Stevedores are sometimes allowing early arrivals if their capacity allows it to get ahead.

Synthesis of evidence

Stakeholders from across the sector indicated that the rigidity and threat of financial penalties had eroded leniency shown by participants in Port Botany. Whilst PBLIS has helped increase visibility and improved time slot systems, stevedores are forced to be more rigid to comply with PBLIS mandates.

Prior to the introduction of PBLIS, a late arriving truck or train was less likely to be turned away at the terminal, which in turn made transport operators more accepting of delays they incurred at the terminal. This acceptance came from demurrage charges which were passed onto the customer. The introduction of PBLIS required stevedores to be stricter with arrival times and financial penalties. This flows upstream, with road and rail operators being less accepting of delays on terminal or within ECPs and IMTs, since these delays can cascade into financial penalties (see page 42). Transport operators also perceived an imbalance in accountability for delays that favour terminal operations (discussed on page 57), at the same time that stevedores are perceived to have reduced customer service to the road industry in the terminals for any issues e.g., phone not being answered when carriers rang through for support.

Road operators also indicated that stevedores were less likely to attempt to squeeze in additional lifts within a shift since this also made them accountable for delays. The adherence to minimum lifts is discussed on Page 55.

"If you are experiencing delays, you might duplicate trips just to ensure you are there on time. Transport operators in NSW need about 20% more equipment (vehicles) to meet requirements."

"Downside of regulation is stevedores now need to be more rigid. They can't let in late trucks, as late trucks can have a cascading effect and cost the stevedores in penalties."

Supported in Consultations with:



Stevedores



Rail operators



Road operators



Other stakeholders

PBLIS pillars applicable



Efficiency



Consistency



Transparency



24/7 operations

Behavioural Theme 4: Arriving within the VBS slot booking time zone has become the top priority for road operators

Drivers of behaviour

Slot rigidity constrains flexibility

Components of PBLIS driving behaviour	Ref
Cancellation of slots	B.8
Carrier booking and listing	B.9
Stevedore Impacted Trucks	B.11
Early Arrivals	B.12.3
Truck services	C.13
Cancellation of Time Zones	C.14.4
Minimum number of slots per hour	C.15.1
Slot bookings	C.15.2
Unforeseen events	C.15.3
Manifesting across multiple Time Zones	C.16.1
Determining certain matters for these mandatory standards (e.g., TTT, minimum number of slots, Truck Trips)	E

Supporting evidence from Castalia CBA of PBLIS performance (2022)	Page
"One of the criticisms that has been levelled at PBLIS in previous consultations was that it may have stifled some potentially more efficient voluntary outcomes."	vii

Behavioural Theme 4: Arriving within the VBS slot booking time zone has become the top priority for road operators

Drivers of behaviour

PBLIS trucks are prioritised over stack runs

Summary of feedback

There are certain efficiency measures existing outside of PBLIS that are unable to be fully utilised. The introduction of PBLIS and TTT has shifted the focus for stevedores. For instance, PBLIS movements are often given priority by stevedores over moments that are not regulated under PBLIS, including stack runs and DREs. Road operators report that stevedores often reassign resources towards PBLIS trucks, therefore reducing efficiency of stack runs and DREs.

"Stevedores have changed their operations do as much [stack runs] outside of PBLIS but if it goes south, they prioritise PBLIS and TTT trucks over stack runs."

"In the past there were dedicated lanes for stack runs - now assigned to fulls and empties."

"We were doing stack runs for fulls and we were being left to the side for 4 hours as they focused on containers for PBLIS."

Synthesis of evidence

Efficient movements of empty containers are an important consideration for port supply chains and logistics. The divergent requirements for imports and exports mean that ports need to facilitate the movements of excess empty containers in order to reduce build-up and congestion of empty containers.

Stack runs (or bulk runs) are large movements of empty containers from an ECP to a stevedore terminal. DREs refer to the direct return of empties to a designated storage area by a shipping line within the stevedore terminal. Both types of movements are essential to the empty container supply chain although they are not subject to PBLIS.

The introduction of PBLIS mandates and penalties for delays have caused stevedores to shift their priorities towards movements covered under PBLIS. This results in other efficient movements such as stack runs and DREs to not be fully utilised by road operators, since reliable and efficient service remains a challenge.

De-prioritisation of empty movements in favour of full containers generate significant issues up the supply chain. The full cost of inefficiencies in the movement and coordination of empty containers is estimated at \$49 million per year.¹

Supported in Consultations with:



Stevedores



Rail operators



Road operators



Other stakeholders

PBLIS pillars applicable



Efficiency



Consistency



Transparency



24/7 operations

1. NineSquared (2020), Empty container supply chain study, <<https://www.transport.nsw.gov.au/system/files/media/documents/2020/empty-container-supply-chain-study-web.pdf>>

Behavioural Theme 4: Arriving within the VBS slot booking time zone has become the top priority for road operators

Drivers of behaviour

PBLIS trucks are prioritised over stack runs

Components of PBLIS driving behaviour	Ref
Determining certain matters for these mandatory standards (e.g., TTT, minimum number of slots, Truck Trips)	E

Behavioural Theme 4: Arriving within the VBS slot booking time zone has become the top priority for road operators

Drivers of behaviour

Reporting requirements add to administrative impost

Summary of feedback

All participants are subject to more administrative tasks as a result of PBLIS requirements. PBLIS billing, processing of financial penalties, and collecting and verifying data that needs to be reported to Transport for NSW can be onerous and has reportedly increased workload across the chain. Stevedores indicated they have had to hire additional staff for PBLIS billing and reconciliation, and road operators report deploying additional resources for PBLIS administrative tasks.

Synthesis of evidence

The introduction of PBLIS has contributed to increasing the level of transparency and accountability with the implementation of financial penalties and required reporting. These benefits come at the cost of additional administrative tasks that PBLIS has created, primarily through the verification of data and the handling of fines.

Stevedores in particular, noted the imposition of verifying data for PBLIS monitoring and performance, although this was considered a second-order issue to the administration of penalties.

Among the suggestions made in consultations was that rather than penalties being individually handled, they could instead be periodically settled since they are often offset over time by penalties in favour of the affected party. It was suggested that this would require less payments administration, and also reduce the time that road operators and stevedores spend challenging penalties or seeking recourse from upstream participants.

"There's so much admin time wasted on booking slots, managing slots, dealing with invoices, fines. We have a person employed full time to do it."

"PBLIS has made everyone more accountable, however, financial penalties go both ways and create so much additional administration."

Supported in Consultations with:



Stevedores



Rail operators



Road operators



Other stakeholders

PBLIS pillars applicable



Efficiency



Consistency



Transparency



24/7 operations

Behavioural Theme 4: Arriving within the VBS slot booking time zone has become the top priority for road operators

Drivers of
behaviour

Reporting requirements add to administrative impost

Components of PBLIS driving behaviour	Ref
Stevedore Impacted Trucks	B.11
Unforeseen events	B.12.1
Manifesting across multiple Time Zones	C.16.1
Determining certain matters for these mandatory standards (e.g., TTT, minimum number of slots, Truck Trips)	E
Invoicing of financial penalties	G

Behavioural theme 5: Stevedores have effectively incorporated PBLIS into their commercial and operational decisions and behaviours

Stevedore efficiency has improved in recent years and other stakeholders feel a rebalance of priorities between port and quayside operations has occurred. It is unclear how much of this rebalance is due to PBLIS as opposed to a corresponding increase in competitive pressure over the same period. Despite this, road operators maintain the perception that stevedores still benefit from a power imbalance, although stevedores disagree that this is the case. Road operators also believe that the current TTT delay penalty for stevedores (\$25 / 15 minutes) does not take into account the increased costs of road transport and charges with HPVs, which have occurred since the introduction of PBLIS. Stevedores report that whilst PBLIS has had a positive impact on the overall efficiency of the port at the outset, the growing volumes today have required operational changes in their landside operation regardless, to manage the greater throughput now required.

Drivers of behaviour

Growth in ship size and vessel exchange has not been accompanied by growth in slots

Meeting but not exceeding minimum rail lift requirements

'Unforeseen events' provide some leniency, but are seen to be used to mask penalties

PBLIS has improved road efficiency, but structural limitations of rail use persist

Behavioural theme 5: Stevedores have effectively incorporated PBLIS into their commercial and operational decisions and behaviours

Growth in ship size and vessel exchange has not been accompanied by growth in slots

The minimum number of slots required has remained constant, however, vessels now carry a greater volume of containers. There is a perception that stevedores have not increased slot allocations in line with the increases in vessel size and shipping line availability. This can make it difficult for road operators to be allocated slots within the first or second day of availability and increase the risk of detention charges.

"Stevedores do not increase their slot allocation regardless of the demand. They've gone from 50 to 55 slots per hour over 10 years, but volumes have increased by much more than that."

"The growth in timeslots per hour is not equivalent to the growth the port has seen."

The size, and particularly the length, of ships has grown over several decades which has led to a rise in container-carrying capacity. Carrying capacity has increased by around 15 times since 1968 and has almost doubled in the past decade.

Road operators have stated that the increase in slots allocated on an hourly basis has not been commensurate with the sharp increase in container volumes. The key issue being raised is that containers are arriving in larger volumes on a per ship basis which leads to a bottleneck for VBS slots as road operators compete for early access to containers to avoid detention charges.

As shipping lines rely on the timely return of containers for efficient cargo flow, detention charges are applied to road operators following an initial free period. The free period commences when the container is made available at the wharf. The shortage of slots can lead to road operators being delayed in their deliveries and incurring detention charges. Some carriers indicated that they believed that shipping lines are pushing stevedores to make containers available as soon as possible.

A side effect of larger vessel sizes is that the impact of incidents such as a crane malfunction is pronounced as a larger number of containers is impacted.

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Stevedores



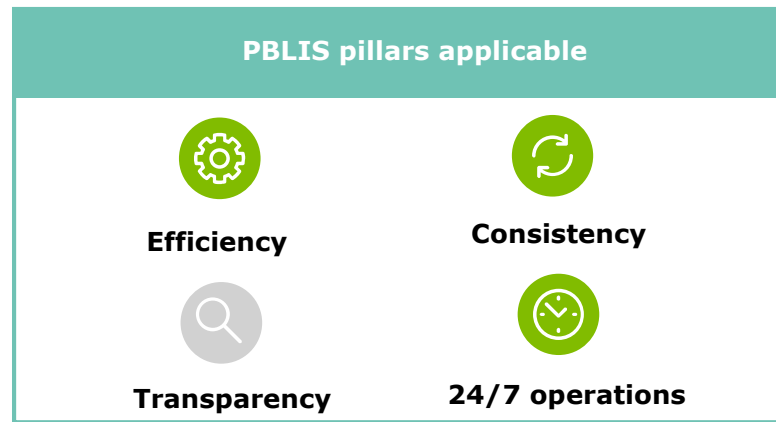
Rail operators



Road operators



Other stakeholders



Behavioural theme 5: Stevedores have effectively incorporated PBLIS into their commercial and operational decisions and behaviours

Drivers of
behaviour

Growth in ship size and vessel exchange has not been accompanied by growth in slots

Components of PBLIS driving behaviour	Ref
Truck servicing	C.13
Carrier booking and listing	B.9
Minimum number of slots per hour	C.15.1
Slot bookings	C.15.2
Manifesting across multiple Time Zones	C.16.1

Supporting evidence from Castalia CBA of PBLIS performance (2022)	Page
"Rising container volumes could be one factor driving increases in TTT [since 2016]".	26

Behavioural theme 5: Stevedores have effectively incorporated PBLIS into their commercial and operational decisions and behaviours

Meeting but not exceeding minimum lift requirements

Trains often leave the port without imports being fully loaded or, in the case of exports, containers are left on the train. Stevedores often only meet the minimum total lift requirements for a rail window with the remaining boxes left at the port. This creates reliability issues for rail freight, which disincentivises operators from relying on rail.

"[operators] get a time window of 4 hours and 100 lifts. That might be 60 off and 40 on, but the number going back on is often down to the stevedores and if they don't get these containers onto the train, there is no recourse against them. Sometimes the container is there for 7 days before it gets on the train, which makes the cost of using rail very high."

In addition to the set total lift windows agreed with rail operators, stevedores are required to meet a specified level of lifts per hour to drive rail loading efficiency. Stevedores have demonstrated that they can service trains efficiently and achieve performance above set lift rates consistently. However, the capped rail lift charges as set by Ministerial direction are not sufficient to encourage stevedores to exceed the total number of minimum lifts per window, despite lift rates \$15 to \$30 after reaching the minimum. Rail operators have stated that they expect a certain number of lifts to be achieved during their rail window, but they are often seeing less than half of those overall targets being met. Rail operators have mentioned however that they are seeing plans and improvements in place recently (past 4 or 5 months).

Supported in Consultations with:



Stevedores



Rail operators



Road operators



Other stakeholders

Containers which are not lifted may remain at the port for several days before being transported, which can create customer penalties on the rail operator which would have been avoided had the container been loaded in the first instance. This also contributes to the perception that rail is unreliable. In some cases, the customer will demand the rail operator collect the container by road to expedite its delivery.

Rail operators have stated that, at times, they will not have any import containers backloaded as they exit the port which leads to a reliance on road operators to fill the void as some large importers tend to prefer their cargo delivered on the first day of arrival. As the control over the number of containers lifted onto trains sits with the terminal operators with minimal recourse for rail operators when targets are not met, rail becomes a less viable option.

PBLIS pillars applicable



Efficiency



Consistency



Transparency



24/7 operations

Behavioural theme 5: Stevedores have effectively incorporated PBLIS into their commercial and operational decisions and behaviours

Meeting but not exceeding minimum lift requirements

Components of PBLIS driving behaviour and Ministerial Direction driving behaviour	Ref
Truck servicing	C.13
Minimum slots per hour	C.15.1
Slot bookings	C.15.2
Unforeseen events	C.15.3
Minimum lifts per hour (36 lifts per hour)	1.A
Charges per lift (\$15 per lift, \$30 after the minimum lifts)	1.A

Supporting evidence from Castalia CBA of PBLIS performance (2022)	Page
"The minimum requirement does not seem to affect performance as stevedores can continue to release the minimum slots required while accepting the slots that make business sense."	20

Behavioural theme 5: Stevedores have effectively incorporated PBLIS into their commercial and operational decisions and behaviours

'Unforeseen events' provide some leniency, but are seen to be used to mask penalties

There is a perception from road operators that stevedores have a lighter burden of proof when claiming unforeseen events, especially for internal issues. This has created the perception that they use these claims to avoid penalties from the cancellation of slots. There is also dissatisfaction with the level of accountability on stevedores to appropriately resolve technical issues that have resulted in an unforeseen event. Whilst stevedores are able to cancel time zones under PBLIS and are typically following the rules around replacement slots, road carriers report inconveniences with trying to rebook slots and adjust resources.

"Unforeseen events still need to be cleaned up but there is more scrutiny. Stevedores can still cancel slots and just quote IT issues and it's difficult to verify."

You see a lot [unforeseen events] for their internal issues and they [stevedores] work within the regulations. But I have to jump through so many hoops to deal with my own technical issues or even just heavy traffic."

'Unforeseen events' refers to cases where a financial penalty is not applied where the event is deemed unforeseeable, and the party provides detailed particulars in writing within 5 days of the event. From the perspective of stevedores, claims of unforeseen events are legitimate. However, there is a perception held by road operators that these events are being used by the stevedores to avoid fines. Examples of these events include IT issues and internal administration.

Certain events are broadly agreed across the industry as difficult to foresee and control (e.g., rare weather patterns) but in other cases, the reasoning can be highly subjective with limited detail provided. Road operators would also like to see plans in place to avoid these events in the future to ensure they are not repeatedly used to avoid penalties.

Road operators, and disproportionately smaller operators with limited manpower, state that they lack the resources to track the claims being made and as a result they are unable to contest them with TfNSW. This may create an imbalance of power where terminal operators are perceived to make unsubstantiated claims which cannot be challenged easily.

There is also a perception by road operators that lenience provided by unforeseeable events is heavily skewed in favour of terminal operators, as these events occur frequently for road operators as well, but they are still subject to penalties when they occur.

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Stevedores



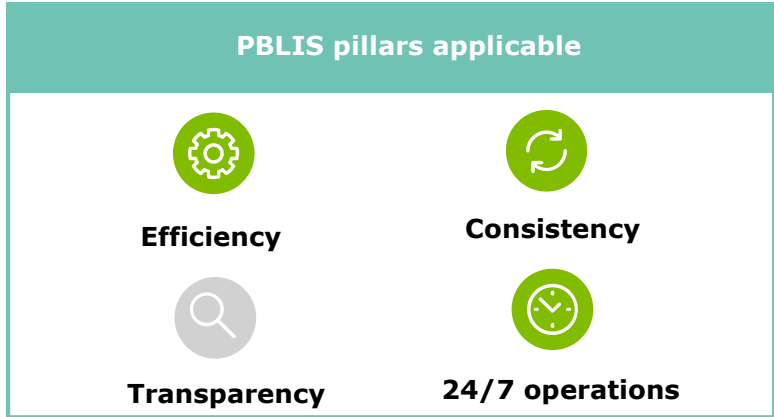
Rail operators



Road operators



Other stakeholders



Behavioural theme 5: Stevedores have effectively incorporated PBLIS into their commercial and operational decisions and behaviours

'Unforeseen events' provide some leniency, but are seen to be used to mask penalties

Components of PBLIS driving behaviour	Ref
Unforeseen events	B.12.1
Cancellation of Time Zones	C.14.4
Unforeseen events	C.15.3

Behavioural theme 5: Stevedores have effectively incorporated PBLIS into their commercial and operational decisions and behaviours

Drivers of behaviour

PBLIS has improved road efficiency, but structural limitations of rail use persist

Summary of feedback

Road transport is less complex, and more reliable and practical than rail in most cases, particularly for low volume direct shipments to metropolitan Sydney. PBLIS has improved TTT and stevedore efficiency and forces stevedores to prioritise road to avoid penalties. Stevedores are also incentivised to get ahead and are sometimes allowing early arrivals. Similarly, transport operators will prioritise the avoidance of detention fees by choosing road over rail. The reliability of road over rail is also an important factor based on customer urgency for their container. Stevedores report that their priority is addressing the growing volumes, of which PBLIS is one tool to help manage this. Stevedores also commented that road is more convenient for handling when compared to rail. In addition, some stevedores and other stakeholders have invested in rail infrastructure to provide more efficient servicing.

"PBLIS has had a detrimental effect on rail. Stevedores now prioritise shipping lines first, Road second due to the threat of PBLIS fines, and rail third."

"Throwing more slots at road will also further kill rail."

"Since PBLIS, volumes have grown a lot. PBLIS doesn't really drive it"

Synthesis of evidence

Throughout the supply chain, there is an understanding that rail has the potential to become a compelling alternative to road transport and capture mode share, especially for customers with large volumes who cannot get sufficient VBS slots. Some of the stated benefits include reducing congestion on roads, preventing Green House Gas emissions, reducing freight cost, and freeing up slots for road operators.

However, this potential is not realised due to a number of structural limitations of rail which include the timeliness of deliveries, reliability issues, prioritisation of passenger rail/lack of a dedicated freight line, and limited utilisation of train capacity. Given that costings are similar for both modes over shorter distances, road transport is favoured. However, some stevedores and other stakeholders have started to invest in rail infrastructure to improve operations.

On this basis, a concern has been raised by rail operators that whilst PBLIS has improved road efficiency through the introduction of mandates and penalties, it has also had an adverse impact on rail use as road becomes more reliable and cost-effective, particularly with the advent of HPVs. In many cases, rail is perceived as a last resort to be used in cases where high volumes and longer distances travelled make the use of rail an imperative. Even still, road transport is required as a backup in cases where there is a breakdown in the rail supply chain.

Supported in Consultations with:



Stevedores



Rail operators



Road operators



Other stakeholders

PBLIS pillars applicable



Efficiency



Consistency



Transparency



24/7 operations

Behavioural theme 5: Stevedores have effectively incorporated PBLIS into their commercial and operational decisions and behaviours

PBLIS has improved road efficiency, but structural limitations of rail use persist

Components of PBLIS and Ministerial Direction driving behaviour	Ref
Carrier booking and listing	B.9
Early Arrivals	B.12.3
Truck servicing	C.13
Minimum number of slots per hour	C.15.1
Slot bookings	C.15.2
Determining certain matters for these mandatory standards	E
Invoicing of financial penalties	G
Minimum lifts per hour (36 lifts per hour)	1.A
Charges per lift (\$15 per lift, \$30 after the minimum lifts)	1.A
Rail windows cancellation (48 hours prior)	4

Behavioural Theme 6: Road operators continue to favour daylight operations

One of the key pillars of PBLIS is to encourage 24/7 operations, which quayside was already achieving. PBLIS has created an outcome whereby the port terminals provide consistent service across 24/6 operations. Some transport operators have adopted longer operating hours to take advantage of this, however, many operators, in particular smaller ones, have limited capacity and are not equipped to operate 24/7. Many key points in the supply chain that impact road operations cannot provide consistent 24/7 operations. For instance, many ECPs, customers and their warehouses are only open during the day on weekdays. There are industry wide staffing and resource constraints that also create barriers to shift to a 24/7 operation.

Drivers of behaviour

Customer and warehouse opening hours are mainly daytime weekdays

Resourcing constraints limit ability to operate 24/7

Majority of boxes are staged

ECPs only operate during the day, as they are not captured by PBLIS

Behavioural Theme 6: Road operators continue to favour daytime operations

Drivers of behaviour

Customer and warehouse opening hours are mainly daytime weekdays

Summary of feedback

Many road operators schedule their runs to deliver to customers and warehouses directly in their opening hours. As a result, stevedores and road operators are reporting huge demand for slots from 6am to 9am on weekdays. However, slots are being underutilised on weekends and at night when many warehouses are closed. Running schedules according to customer opening hours allows road operators to avoid storage costs from using a third-party yard, which is especially true for those who do not have their own yards. Smaller operators also report operating during the daytime as that's what their volume requires, with some occasionally running at off-peak times when larger volumes come through.

"Can't move the required volumes at these times and the rest of the transport industry has not caught up."

"Whole industry is not 24 hr operations, generally small operators and their customers are not (6am to 6pm)"

Supported in Consultations with:



Stevedores



Rail operators



Road operators



Other stakeholders

Synthesis of evidence

One of the key pillars of PBLIS is to encourage 24/7 operations. However, there are other factors outside of PBLIS that constrains this target. One challenge to achieving port efficiency is the mismatch in operating hours of the port (which supports 24/6 operations), and that of customers and warehouses.

Many customers tend to expect their deliveries to be made on the same day that a vessel arrives at the port. In the cases where delivery can be made at a later date, smaller customers rarely operate on nights and weekends. In order to deliver cargo to customers during their opening hours (particularly smaller customers), road operators have a strong preference for morning slots on weekdays. In addition, warehouses do not operate during the night or on weekends, which forces road operators to deliver during the day.

As container volumes continue to increase, the demand for peak period slots will continue to grow and supply will not be sufficient to accommodate this. A solution is needed whereby smaller customers are still able to receive their cargo in a reliable and timely manner.

PBLIS pillars applicable



Efficiency



Consistency



Transparency



24/7 operations

Behavioural Theme 6: Road operators continue to favour daytime operations

Drivers of
behaviour

Customer and warehouse opening hours are mainly daytime weekdays

Components of PBLIS driving behaviour	Ref
Carrier booking and listing	B.9
Minimum number of slots per hour	C.15.1

Supporting evidence from Castalia CBA of PBLIS performance (2022)	Page
"Given the limited working hours of downstream supply chain participants, ..., there is a significant preference among road carriers for peak hour slots for truck servicing."	20
"Without the rest of the supply chain working 24/7, the problem of excess demand for booking slots will remain."	46

Behavioural Theme 6: Road operators continue to favour daytime operations

Drivers of behaviour

Resourcing constraints limit ability to operate 24/7

Summary of feedback

There is a shortage of drivers across the industry, which intensified during COVID-19. Transport operators have been unable to get drivers for day shifts let alone longer or night shifts. With higher weekend and night-time rates, operators, especially small ones, are also often unable to afford these additional costs, especially if their volume doesn't require off-peak operations.

Truck operators also note that tunnels are often closed for maintenance at night which impacts their operations. Tunnel closures can cause significant issues which they have to manage regularly, particularly if it impacts multiple routes.

Synthesis of evidence

There appears to be a general preference for standard business hours amongst road operators, unless volumes demand additional out of peak work. The reasons stated for this include additional labour costs when operating at night and on weekends, WHS issues of working both day and night, and a strong preference for daytime work for lifestyle reasons. Essentially, workers demand a hefty premium to be incentivised to work these hours which is not feasible, particularly for smaller operators.

The intensified shortage of drivers during the COVID-19 pandemic highlights the sensitivity of the industry to adverse shocks. The shocks from the pandemic were mitigated to a degree through rapid antigen testing, sub-contracting and additional handling, but these solutions still carried a cost. Resourcing constraints also extend beyond labour shortages. Inflation has also caused the cost of freight including vehicle purchase, maintenance, fuel and toll charges to increase.

Another constrained resource is capacity of Sydney's road network. Despite heavy investment from NSW government (e.g., M8), congestion is still prevalent in freight corridors. This is especially the case during the peak travel periods when road freight is occurring. Construction of roads with wider lanes also supports the use of HPVs.

"...a lot [of operators] are concerned about paying the higher night-time and weekend rates."

"It's not always practical to just get a night-time slot as there are extra costs"

"I think the biggest issue for me with COVID is staffing issues. At one stage, 1/3 of workers in NSW were out for a week"

Supported in Consultations with:



Stevedores



Rail operators



Road operators



Other stakeholders

PBLIS pillars applicable



Efficiency



Consistency



Transparency



24/7 operations

Behavioural Theme 6: Road operators continue to favour daytime operations

Drivers of
behaviour

Customer and warehouse opening hours are mainly daytime weekdays

Components of PBLIS driving behaviour	Ref
Carrier booking and listing	B.9
Minimum number of slots per hour	C.15.1

Supporting evidence from Castalia CBA of PBLIS performance (2022)	Page
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"Without the rest of the supply chain working 24/7, the problem of excess demand for booking slots will remain."	46

Behavioural Theme 6: Road operators continue to favour daytime operations

Drivers of behaviour

Majority of boxes are staged

Summary of feedback

The majority of boxes require staging due to the large volume and PBLIS requirements. Medium and large road operators are able to own their own yards to stage container movements, enabling them to run outside of peak periods and on weekends without incurring additional costs. However, smaller transport operators do not have yards for staging. Therefore, smaller road operators would prefer to go directly to their customers during the day to avoid additional fees. In addition, finding well aligned slots throughout the day to manage volumes can be a challenge and therefore smaller operators may run more cycles.

"We promote 24hr operations, but it comes down to cost at end of the day unless you're a big player"

Supported in Consultations with:



Stevedores



Rail operators



Road operators



Other stakeholders

Synthesis of evidence

Although the vast majority of containers go through a staging process, it is not entirely clear how much of this is due to PBLIS disciplines (being either consistent stevedore service allowing efficient truck cycling directly between stevedore and yard, or road operators not wanting to incur a penalty for a late port return from customers' premises), and how much is due to the overall growth in port trade which requires containers to be staged so as to manage the increased total volumes.

The Port of Melbourne Container Logistics Chain Study found that 82% of import containers were staged due to the mismatch between 24/7 port operations and importer delivery times during normal business hours.¹ Exporters have greater flexibility to hold onto containers until they are due to be shipped. However, the majority are still staged, either through transport depots (40%) or intermodal terminals (17%). However, it's important to note that Port of Melbourne has a different operator landscape, terminal geography and operational arrangements compared to Sydney.

PBLIS pillars applicable



Efficiency



Consistency



Transparency



24/7 operations

1. Container Logistics Chain Study, Summary of Key findings (2020). Port of Melbourne.

Behavioural Theme 6: Road operators continue to favour daytime operations

Drivers of behaviour

Majority of boxes are staged

Components of PBLIS driving behaviour	Ref
Stevedore Impacted Trucks	B.11
Truck services	C.13

Supporting evidence from Castalia CBA of PBLIS performance (2022)	Page
"According to a 2012 Colmar Brunton Survey commissioned by Sydney Ports, key stakeholders such as quarantine officials, container parks and storage yards and warehouses are not open 24/7 which is resulting in double-handling of containers and cost overruns."	30

Behavioural Theme 6: Road operators continue to favour daytime operations

ECPs only operate during the day, as they are not captured by PBLIS

Drivers of behaviour

Many ECPs are not open 24/7 and as a result operators have fewer options to return boxes if they use slots at night. Road operators working at night are forced to stage their empty boxes if they are unable to access an ECP, which leads to additional costs, and disincentivises night-time operations.

Summary of feedback

While stevedores were operating 24/7 prior to PBLIS, the minimum slots required due to PBLIS has led to more consistent 24/7 operations by stevedores. Stevedores are also permitted to reduce capacity based on demand for slots. Despite this, 24/7 supply chain operations continue to be a challenge where there is a mismatch with the operating hours of other operators in the empty container supply chain. In particular, the majority of empty container parks operate Monday to Friday between 6am and 5pm.

Synthesis of evidence

24-hour operations have been trialled in the past by individual ECPs but limited utilisation by port road operators during off-peak periods did not justify the incremental cost of remaining open in those hours. This is also partly due to the fact that past trials were not conducted in a coordinated approach despite road operators visiting multiple ECPs during their run. A few parks have retained 24-hour weekday operations but do not operate on weekends.

As a result, road operators are forced to use a staging approach for export empty containers. This carries a significant additional cost of between \$90 and \$200 per container according to Container Transport Alliance Australia (CTAA). This is as opposed to de-hiring, an option to transport a container to an ECP rather than exporting it which avoids staging and handling costs.

The argument is that if ECPs were captured under PBLIS and shifted to 24/7 or at least 24/5 operations, road operators would have greater flexibility in when and how they handle empty containers which prevents congestion at the port in peak periods.

"I think a lot of smaller operators can't work 24/7. A lot of western carriers would like to be able to bring an empty container down on their way for a 3am or 4am timeslot."

"Smaller operators can't work 24/7. I think the ECP should at least be 24/5 - not every park is."

Supported in Consultations with:



Stevedores



Rail operators



Road operators



Other stakeholders

PBLIS pillars applicable



Efficiency



Consistency



Transparency



24/7 operations

Behavioural Theme 6: Road operators continue to favour daytime operations

ECPs only operate during the day, as they are not captured by PBLIS

Drivers of
behaviour

Components of PBLIS driving behaviour	Ref
Carrier booking and listing	B.9
Early Arrivals	B.12.3
Minimum number of slots per hour	C.15.1

Key research questions

Summary of key research questions

As part of the scope of work, TfNSW presented Deloitte with a list of key questions to guide the research and consultations. The themes discussed in the previous section are a curation of feedback we heard from across the consultations and focus on the top 6 areas where there was strong and consistent feedback.

This section summarises the responses to the questions from across the various interviews. In some cases, responses do not contribute to the top 6 themes, however, have been captured for completeness.

Key questions	Summary of our relevant themes and drivers	Relevant theme and driver of behaviour reference	
How have the behaviours of stevedores and transport operators (rail and road) changed following the introduction of PBLIS?	PBLIS has increased the attention to certain aspects of efficiency and consistency (particularly TTT). This has resulted in stevedores and transport operators adjusting behaviours first and foremost to avoid penalties. This has changed certain behaviours towards stevedore truck servicing and port road carrier time zone arrival punctuality as a positive change, however, has also encouraged inefficient behaviours and practices such as overbooking of slots. In addition, the additional administrative burden due to PBLIS has also led to some stakeholders employing additional staff to help manage tasks such as slot bookings and reporting.	1 (1) (3) (4) 2 (1) (2) (4) 3 (1) (2) (4)	4 (1) (2) (3) (4) 5 (2) (3) (4) 6 (2) (4)
Were those behavioural changes the result of PBLIS, or the result of other factors? If so, what are these other factors?	PBLIS is responsible for behavioural changes associated with the focus on TTT and penalties (focus of themes and drivers). Other factors participants identified as influencing behaviour include changes in technology and equipment i.e., greater overall trade volume including larger individual vessel volumes, and competition. Stevedores, in particular, indicated competition and greater throughput volumes required to be managed as the primary factors for driving change and downplayed the significance of PBLIS, indicating there would be no behavioural change if removed.	Does not refer to a specific theme	
How have the behaviours of stevedores and transport operators remained unchanged following the introduction of PBLIS?	Despite the push towards 24/7, demand for morning peak and daytime slots is largely unchanged. Road operators have a perception that stevedores have not increased their number of slots per time zone above the minimum slot requirements over time despite the growth in vessel sizes and overall volumes. However, other factors also impact the ability to operate 24/7, including ECPs and warehouses which sit outside of PBLIS. For rail operators, PBLIS has had little or no direct impact on behaviour, but stevedores have complied with the Ministerial direction on lift rates and enforced the pro rate servicing of windows if a rail operator is late or refused to service the train completely if outside the window. Whilst stevedores are meeting lift rates, they are not exceeding the minimum.	1 (2) (4) 2 (3) (4) 3 (2) (3)	5 (2) (4) 6 (1) (2) (3) (4)
What factors currently drive behavioural change at Port Botany?	Participants identified PBLIS penalties as well as changing technology, increased volumes and greater competition as drivers of behavioural change.	Does not contribute to a specific theme	

Summary of key research questions

Key questions	Summary of our relevant themes and drivers	Relevant theme and driver of behaviour reference	
Is it possible to identify future drivers of behavioural change?	Some participants identified environmental and sustainability considerations, however, these were noted to be modest where cost and price remain the key drivers. Capacity constraints, increasing volumes and congestion will likely require adaptation in future, such as a greater adoption of rail.	Does not contribute to a specific theme	
Has PBLIS resulted in the development of any adverse behaviours, or unintended impacts on behaviours?	The focus on penalties and mandates has made the system more rigid and also engrained a number of inefficiencies in quayside operations. In particular, stack runs, two-way loading and container density have been deprioritised and innovation has been hampered by threat of financial penalties. Stevedores indicated that there have been several attempts to innovate and improve existing systems (particularly in relation to slot allocations and bookings). However, the fear of cascading financial penalties is sufficient to dissuade such actions should the technology require significant testing. It has also led to greater administration and resourcing of PBLIS penalty reconciliation and disputes.	1 (2) (3) 2 (1) (2) 3 (1) (4)	4 (1) (2) (3) (4) 5 (2) (3)
What is the perceived effect of statutory penalties on the behaviour of stevedores and transport operators, in particular the meeting of booking slots?	Statutory penalties and mandates have reduced TTT. However, penalties appear to increase rigidity, since operators and stevedores focus on minimising financial penalties. Other potential efficiencies within the port (such as stack runs and two-way loading) are de-prioritised as a result. Stevedores reported that penalties have resulted in their operations becoming more rigid and disciplined, and less flexible.	1 (1) (3) (4) 2 (1) (2) (4) 3 (1) (4)	4 (1) (2) (3) 5 (1) (2) (3) 6 (1) (2) (4)
How has PBLIS affected the trucking industry? Do they manage themselves differently as a result of PBLIS?	Road operators look to minimise penalties which, at times, means duplication of resources. Road operators close to the port are disincentivised from using ECPs enroute to the terminals due to the risk of downstream delays.	1 (1) 2 (1) (2)	4 (1) (2) (4)
Are there any differences in behaviour between small, medium, or large road transport operators?	Small to medium operators are still typically operating in the daytime periods. Small operators may band together and inform other operators before they release more slots back into the system. Large operators are more likely to use off peak hours since they have access to their own yard and demand to do so. Some medium carriers are using rail to IMTs to assist with volumes, especially if they have larger clients.	2 (2)	6 (2)
Has PBLIS led to a shift in stevedores' operational focus e.g., relative focus of effort on servicing road, rail, and quayside (ships)?	PBLIS has helped rebalance priorities between portside and quayside operations, although there is still a prioritisation of portside. In terms of landside, PBLIS has encouraged stevedores to focus on trips that risk financial penalties which has tended to favour road operations over rail. Rail operators reflected that resources are directed to reducing PBLIS fines. Stevedores don't necessarily agree that they prioritise road, but trucks are preferred as they are more convenient.	5 (1) (2) (3) (4)	
How do stevedores prioritise their terminal management as a result of PBLIS? Has it led to them putting certain systems or processes in place?	Servicing shipping lines (quayside) and overall terminal volume throughput remains a stevedore's top commercial priority, but as part of this volume throughput management, PBLIS has flowed into daily terminal operations decision making on the deployment of terminal labour with a landside prioritisation of road followed by rail to minimise penalties.	3 (4)	

Summary of key research questions

Key questions	Summary of our relevant themes and drivers	Relevant theme and driver of behaviour reference	
<p>Did PBLIS result in any investment in infrastructure by stevedores? Or would the improvements have happened anyway (e.g., due to expansion of business over time)?</p>	<p>Stevedores indicated that much of their investments would have occurred regardless of PBLIS. For example, stevedores noted that current investments into rail operations are in response to expectations of the future rather than PBLIS or current demand for rail services.</p>	<p>Does not contribute to a specific theme</p>	
<p>Do stevedores focus service effort on road more now than rail, due to the introduction of PBLIS?</p>	<p>There is an industry perception amongst participants that PBLIS has further decreased the relative importance of rail relative to road. This is partly a result of the focus on penalties but also because road can more easily flex to support rail needs than rail can support road needs, should prioritisation or extra capacity be needed. It is seen as smaller overall cost to turn around trains then significantly disrupt road. Road customers, and consequently road operators, are less accepting of delays.</p>	<p>3 (4)</p>	
<p>How have rail operators changed their behaviour as a consequence of PBLIS?</p>	<p>Participants held a view that rail operator behaviour is largely unaffected by PBLIS. Whilst PBLIS has led to a de-prioritisation of rail, rail operators indicated that they have learnt to work within the system. Some rail operators have expressed that PBLIS could play a role in allocating windows in the future to help address the shortage and underutilisation of windows.</p>	<p>3 (2)</p>	<p>5 (4)</p>
<p>Do behaviours change for empty containers (versus full)?</p>	<p>PBLIS has somewhat disincentivised dual loading/two-way running. The risk of delay and subsequent fines create reluctance among road operators to plan an empty container trip (either pick up or drop off) alongside a full container trip. ECPs only operate during the day which places limitations on road operators. Stack runs also sit outside PBLIS which carriers believe has impacted their TTT as stevedores are prioritising PBLIS time slotted trucks over empty (and full) stack runs to mitigate penalty risk. That Direct Return Empties (DREs) also sit outside PBLIS has been seen to be a negative for TTT for such trips but also an impediment to two-way running due to complexity of booking an import that sits within PBLIS on the same trip.</p>	<p>1 (3)</p>	<p>6 (4)</p>
<p>If all slots were utilised to the fullest, what would the environment look like?</p>	<p>Road operators indicated a desire to utilise slots outside of peak periods, although limited operating hours of upstream supply chain participants largely prevented this. There would also need to be a significant increase in the availability of offsite storage to facilitate 24/7 operations. Offsite storage also brings with it additional costs, such as additional lift fees and storage that needs to be either passed through to customers or absorbed by the road operator. One of the challenges identified by road operators was that you can no longer select if a slot is for an import or export but rather the booking system allocates this so even if all the slots are utilised, the actual demand environment for either imports or exports may not be truly reflected depending on the stevedore slot allocation e.g., imports may be satisfied at fully booked but carriers could be short export slots.</p>	<p>6 (1) (3) (4)</p>	

Summary of key research questions

Key questions	Summary of our relevant themes and drivers	Relevant theme and driver of behaviour reference	
What effect have intermodal terminals had on behaviours?	There was no indication in consults that behaviour had been significantly affected by intermodal terminals as yet. Participants indicated that rail behaviour was more affected by network conditions than intermodal terminals, although some port carriers located at IMTs had taken advantage of rail to move either bulk customer volumes or volumes that they could not get road VBS slots for.	Does not contribute to a specific theme	
Is higher density and dual running supported?	The most efficient movement for a stevedore is loading one box per truck, otherwise the straddle is required to return to get the other box. Export tagging has also been removed from PBLIS. Stevedores have reported that whilst there has been an improvement in TTT, the density of trucks has not improved. The risk of a PBLIS fine due to late arrivals is a disincentive to utilise dual loading. In addition, booking the correct slots and well scheduled times can also be a challenge where road operators rush to book slots at preferred times. Therefore, road operators face challenges in getting the right import and export slots.	1 (3)	1(4)
Why are DREs not being utilised?	The slow servicing of DREs is a barrier for road operators which can result in being late for their time slot, therefore risking a PBLIS fine.	2 (4)	4 (3)
Are advanced bookings being considered?	Larger carriers mentioned the advantages of advanced bookings and that it would be a preferred system. Smaller carriers did not mention advanced bookings during the consultations but may not be aware of it.	2 (1)	2 (4)
Evidence for road favoured over rail?	Rail carriers perceive that stevedores have deprioritised rail. To avoid PBLIS fines, stevedores are suggested to have shifted their focus towards road and away from rail.	3 (4)	5 (2) (4)
Evidence that rail operators are hoarding windows?	Stevedores and rail operators have suggested that rail operators are hoarding windows across multiple stevedores. Rail window utilisation rates are perceived to not be maximised. There is a shortage of windows available, however also an underutilisation, impacting the take up of rail.	3 (1)	
Small vs large operators on staging boxes?	Medium and larger road operators often have their own yards to stage boxes, whereas smaller ones may have to use a third-party yard which leads to additional costs. Therefore, smaller operators often prefer to go directly to the customer and warehouses to avoid additional fees.	6 (2)	

Appendices

Attachment A – Interview Guide

Attached separately.

Appendix B – Identified PBLIS Legislative Components

The tables that follow indicate the features of PBLIS which have impacted stakeholder behaviour.

Part B: Carrier Mandatory Standards	Reference
Carrier must not cancel a booking within 24 hours	Part B 8
Carrier booking and listing	
<ul style="list-style-type: none"> a. A Carrier must ensure that it and its Related Entities, together, use no more than one log-in code to make Bookings through a Stevedore’s VBS. b. A Carrier must not cancel a Booking for a Slot other than by Listing that Booking 	Part b 9
Stevedore Impacted Trucks	
<ul style="list-style-type: none"> a. If a Carrier’s Truck <ul style="list-style-type: none"> I. Arrives at a Stevedore’s Terminal for a Slot after the end of the Time Zone for that Slot; and II. that Truck is a Stevedore Impacted Truck in respect of the Booking for that Slot, 	
then:	Part B part 11
<ul style="list-style-type: none"> I. the relevant Stevedore must not deny the Truck entry into that Stevedore’s Terminal on the basis that the Truck has Arrived late at the Terminal; and II. any Financial Penalty required to be paid by the Carrier to the Stevedore in respect of that Truck on the basis that the Truck has Arrived late at the Terminal is reduced to \$0; and III. TTT commences in respect of that Truck at the time that it Arrives at the relevant Stevedore’s Terminal 	
Other circumstances in which Financial Penalties for failure to comply with Carrier mandatory standards are reduced	
<ul style="list-style-type: none"> 1. Unforeseen Events <ul style="list-style-type: none"> a. Any Financial Penalty that is payable by a Carrier for a failure to comply with a mandatory standard is reduced to \$0 in the following circumstance: <ul style="list-style-type: none"> i. the Carrier is unable to comply with that mandatory standard because of an Unforeseen Event; and ii. the Carrier provides Detailed Particulars of the Unforeseen Event in writing to TfNSW by email and through the TfNSW website no later than 24 hours after it occurs. 	Part B 12.1
Early Arrivals	
Any Financial Penalty that is payable by a Carrier for a failure to comply with the	
Regulation section 54 is reduced to \$0 in either of the following circumstance:	
<ul style="list-style-type: none"> a. at the time the Carrier’s Truck Arrives at the relevant Terminal a designated Truck Marshalling Area is not available for early arriving Trucks; or b. at the time the Carrier’s Truck Arrives at the relevant Terminal the Truck is accepted by the relevant Stevedore notwithstanding its Early Arrival. 	Part B 12.3

Appendix B – Identified PBLIS Legislative Components

Part C: Stevedore mandatory standards	Reference
Truck services	
<p>a. For each Truck that Arrives at a Stevedore’s Terminal pursuant to a Booking and for the purpose of receiving Truck Services a Stevedore must perform the Truck Services in full within the applicable Truck Turnaround Time.</p> <p>b. For each Truck that Arrives at a Stevedore’s Terminal pursuant to a Booking and for the purpose of receiving Truck Services and that Truck Arrives after the end of the Time Zone but before the end of the Extended Arrival period, a Stevedore must perform the Truck services in full, unless that Extended Arrival Period occurs concurrently with a Stevedore’s shift that is not manned for truck servicing.</p>	Part C 14.1
Cancellation of Bookings and Time Zones	
<p>Minimum Duration of Time Zone</p> <p>A Stevedore must not prescribe a Time Zone which is less than 60 minutes.</p>	Part C 14.3
Cancellation of Time Zones	
<p>a. A Stevedore must not cancel an entire Time Zone unless it is due to an Unforeseen Event or is necessary to do so to address reasonable concerns regarding the safety of a person or persons.</p>	Part C 14.4
Slots	
Minimum number of slots per hour	
<p>a. Each Stevedore must make available no less than the Minimum Number of Slots each Hour, 24 hours a day, in respect of which all Carriers can make Bookings.</p> <p>b. Stevedores may, but are not required to, make available the Minimum Number of Slots each day by allocation of approximately 50% of the total number of Slots for Booking by Large Carriers and approximately 50% of the total number of Slots for Booking by Small Carriers.</p>	Part C 15.1
Slot bookings	
<p>a. The Minimum Number of Slots to be made available by a Stevedore each Hour must be made available by that Stevedore for Bookings at least 2 Working Days prior to the commencement of that Hour unless it has received the prior approval of TfNSW to make one or more of those Slots available for a period that is less than 2 Working Days prior to the commencement of that Hour</p> <p>b. A Stevedore (and, if applicable, its VBS Service Provider) must not make a Booking, or accept a Booking, for a Container to be loaded or unloaded onto or from a Truck at that Stevedore’s Terminal unless that Booking has been made through that Stevedore’s VBS.</p>	Part C 15.2

Appendix B – Identified PBLIS Legislative Components

Part C: Stevedore mandatory standards	Reference
<p>Manifesting across multiple Time Zones</p> <p>A Stevedore (and, if applicable, its VBS Service Provider) must allow Truck Trips to be manifest for multiple Bookings across up to two consecutive Time Zones where Bookings are held in each of those Time Zones and undertaken as a single Truck Trip in the earliest of those Time Zones.</p>	Part C 15.3
<p>Other circumstances in which Financial Penalties for failure to comply with Stevedore mandatory standards are reduced</p> <p>Unforeseen Events</p> <p>Any Financial Penalty that is payable by a Stevedore for a failure to comply with a mandatory standard is reduced to \$0 in the following circumstances</p> <ul style="list-style-type: none">a. the Stevedore is unable to comply with a mandatory standard because of an Unforeseen Event; andb. the Stevedore has cancelled one or more Time Zones because of the Unforeseen Event	Part C 16.1
Part D: Regulation of charges	
<p>Storage:</p> <p>A Stevedore must not require the payment of any charge in respect of:</p> <ul style="list-style-type: none">i. the storage of an Import Container for a day that is not a Working Day; orii. the storage of an Import Container for the first 3 Working Days after storage commences; oriii. storage of any Container that results from the cancellation of a Time Zone or Booking or Slot for an Unforeseen Event; or	Part D 17
<p>Charging for matters addressed by mandatory standards</p> <p>A Stevedore must not and must ensure that its VBS Service Provider does not impose any charge on a Carrier in respect of:</p> <ul style="list-style-type: none">a. the time that a Truck Arrives at the relevant Terminal for a Booking; orb. the failure of a Truck to Arrive at the relevant Terminal for a Booking; orc. the cancellation of a Booking, regardless of when the cancellation occurs, including any cancellations by a Carrier in circumstances where the cancellation related<ul style="list-style-type: none">i. changed advice from the Stevedore on Container availability; orii. the Listing process of the Stevedore’s VBS	Part D 18

Appendix B – Identified PBLIS Legislative Components

Part E: Determining certain matters for these mandatory standards	Reference
<p>Determining when a Truck Arrives</p> <p>For the purposes of these mandatory standards a Truck is deemed to have arrived for a Booking at a Terminal:</p> <ul style="list-style-type: none">a. at the time when that Truck has entered that Terminal at Port Botany through an In Gate; orb. at the time notified by TfNSW to the relevant Stevedore to be the time that that Truck arrived at that Terminal on the basis of data and information gathered by TfNSW, provided that time is not later than the time referred to in section 21 (a)	Part E 21
<p>Determining when a Truck joins, or fails to join, a Service Line</p> <p>For the purposes of determining when a Truck joins or fails to join a Service Line under these mandatory standards, a Truck is deemed to have so joined or failed to join the Service Line at the time notified by TfNSW to the relevant Stevedore to be the time that that Truck has joined or failed to join the Service Line on the basis of data and information gathered by TfNSW.</p>	Part C 22
<p>Determining the Truck Turnaround Time</p> <p>For the purposes of these mandatory standards the Truck Turnaround Time (or TTT) for each Stevedore is the applicable timeframe determined in accordance with Schedule 3.</p>	Part C 24
<p>Determining the Minimum Number of Slots</p> <p>For the purposes of these mandatory standards the Minimum Number of Slots is 54.</p>	Part C 25
<p>Determining matters relating to Truck Trips</p> <p>Determining when a Truck Trip has been completed For the purposes of these mandatory standards, a Truck Trip in connection with a Booking or Bookings is deemed to have been completed at the time determined by TfNSW to be the time a Truck Trip was completed.</p>	Part C 26.1

Appendix B – Identified PBLIS Legislative Components

Part G: Invoicing of financial penalties	Reference
Billing cycle Invoices for the payment of Financial Penalties must be issued on the basis of a rolling 7 day billing cycle.	Part G 35.a
Invoicing disputes a. If a Carrier wishes to dispute the validity of a Financial Penalty for which an invoice has been issued to it by a Stevedore under section 33 or section 34 because the Financial Penalty is not accurate or has been incorrectly included on the invoice, the Carrier must provide the relevant Stevedore with written notice of the dispute no later than 14 days after the issue date of the relevant invoice. b. If a Stevedore receives a dispute notice under section 39(a), it must investigate the dispute claim and provide the Carrier with a written response no later than 14 days after the date of the dispute notice stating whether or not the Financial Penalty in dispute remains payable by the Carrier having regard to the data referred to in sections 36(a)(v) to 36(a)(vii).	Part G 39

Appendix C – Summary of PBLIS Components to Drivers

PBLIS has impacted the supply chain in various ways. The table below provides an indication of how each component of the mandatory standards impacts the drivers of behaviour that have resulted in each of the key themes.

Key Behavioural Theme 1: Road operators focused on more direct trips into the terminal, and TTT.		Faster more consistent TTTs	Container density per truck not at full capacity	Two way loading opportunities to avoid empty running not fully utilised	Use of multiple stevedores may have downstream impacts and is not covered under PBLIS
	Ref				
PBLIS mandatory standards					
Part B: Carrier Mandatory Standards					
Cancellation of slots	B.8		X	x	
Carrier booking and listing	B.9		X	x	
Stevedore Impacted Trucks	B.11	x	X	x	
Unforeseen events	B.12.1				x
Early Arrivals	B.12.3	x			
Part C: Stevedore mandatory standards					
Truck servicing	C.13	x	x	x	x
Cancellation of Time Zones	C.14.4	x	x	x	x
Minimum number of slots per hour	C.15.1	x	x	x	
Slot bookings	C.15.2		x	x	
Unforeseen events	C.15.3	x	x	x	x
Manifesting across multiple Time Zones	C.16.1	x		x	
Regulation of charges	D	X	x	x	x
Determining certain matters for these mandatory standards (e.g., TTT, minimum number of slots, truck trips)	E	x	x	x	x
Invoicing of financial penalties	G				
Ministerial direction					
Minimum lifts per hour (36 lifts per hour)	1.A			x	
Charges per lift (\$15 per lift, \$30 after the minimum lifts)	1.A				
Rail windows cancellation (48 hours prior)	4				

Appendix C – Summary of PBLIS Components to Drivers

Key Behavioural theme 2: Road operators are booking more slots than required as they maintain high demand for VBS slots at peak times	Ref	Overbooking and hoarding slots	Slot cancellation within 48 hours incur no penalty	High demand for slots during preferred times	Coordination requirements constrain the ability to improve slot booking systems
PBLIS mandatory standards					
Part B: Carrier Mandatory Standards					
Cancellation of slots	B.8	x	x	x	x
Carrier booking and listing	B.9	x	x	x	x
Stevedore Impacted Trucks	B.11			x	
Unforeseen events	B.12.1				
Early Arrivals	B.12.3				
Part C: Stevedore mandatory standards					
Truck servicing	C.13			x	
Cancellation of Time Zones	C.14.4				
Minimum number of slots per hour	C.15.1	x	x	x	
Slot bookings	C.15.2	x	x		
Unforeseen events	C.15.3				
Manifesting across multiple Time Zones	C.16.1	x		x	
Regulation of charges	D				x
Determining certain matters for these mandatory standards (e.g., TTT, minimum number of slots, truck trips)	E				x
Invoicing of financial penalties	G				x
Ministerial direction					
Minimum lifts per hour (36 lifts per hour)	1.A				
Charges per lift (\$15 per lift, \$30 after the minimum lifts)	1.A				
Rail windows cancellation (48 hours prior)	4				

Appendix C – Summary of PBLIS Components to Drivers

Key Behavioural theme 3: Rail operators are holding onto windows, and rail windows are being underutilised	Ref	Window sitting	Rail operator behaviour is largely unaffected by PBLIS	Regional container trains are not at full capacity, impacting overall window utilisation	Road is prioritised over rail
PBLIS mandatory standards					
Part B: Carrier Mandatory Standards					
Cancellation of slots	B.8				
Carrier booking and listing	B.9				
Stevedore Impacted Trucks	B.11				
Unforeseen events	B.12.1				
Early Arrivals	B.12.3				
Part C: Stevedore mandatory standards					
Truck servicing	C.13				x
Cancellation of Time Zones	C.14.4				
Minimum number of slots per hour	C.15.1				
Slot bookings	C.15.2				
Unforeseen events	C.15.3				
Manifesting across multiple Time Zones	C.16.1				
Regulation of charges	D				x
Determining certain matters for these mandatory standards (e.g., TTT, minimum number of slots, truck trips)	E				x
Invoicing of financial penalties	G				x
Ministerial direction					
Minimum lifts per hour (36 lifts per hour)	1.A		x	x	x
Charges per lift (\$15 per lift, \$30 after the minimum lifts)	1.A	x	x	x	
Rail windows cancellation (48 hours prior)	4	x			

Appendix C – Summary of PBLIS Components to Drivers

Key Behavioural theme 4: Arriving within the VBS slot booking time zone has become the top priority for road operators	Ref	TTT in ECPs not covered under PBLIS	Slot rigidity constrains flexibility	PBLIS trucks are prioritised over stack runs	Reporting requirements add to administrative impost
PBLIS mandatory standards					
Part B: Carrier Mandatory Standards					
Cancellation of slots	B.8		x		
Carrier booking and listing	B.9		x		
Stevedore Impacted Trucks	B.11		x		x
Unforeseen events	B.12.1				x
Early Arrivals	B.12.3		x		
Part C: Stevedore mandatory standards					
Truck servicing	C.13		x		
Cancellation of Time Zones	C.14.4		x		
Minimum number of slots per hour	C.15.1		x		
Slot bookings	C.15.2		x		
Unforeseen events	C.15.3		x		x
Manifesting across multiple Time Zones	C.16.1		x		x
Regulation of charges	D				
Determining certain matters for these mandatory standards (e.g., TTT, minimum number of slots, truck trips)	E	x	x	x	x
Invoicing of financial penalties	G				x
Ministerial direction					
Minimum lifts per hour (36 lifts per hour)	1.A				
Charges per lift (\$15 per lift, \$30 after the minimum lifts)	1.A				
Rail windows cancellation (48 hours prior)	4				

Appendix C – Summary of PBLIS Components to Drivers

Key Behavioural theme 5: Stevedores have effectively incorporated PBLIS into their commercial and operational decisions and behaviours	Ref	Growth in ship size and vessel exchange has not been accompanied by growth in slots	Meeting but not exceeding minimum lift requirements	'Unforeseen events' provide some leniency, but can be used to mask penalties	PBLIS has improved road efficiency, but structural limitations of rail use persist
PBLIS mandatory standards					
Part B: Carrier Mandatory Standards					
Cancellation of slots	B.8				
Carrier booking and listing	B.9	x			x
Stevedore Impacted Trucks	B.11				
Unforeseen events	B.12.1			x	
Early Arrivals	B.12.3				x
Part C: Stevedore mandatory standards					
Truck servicing	C.13	x	x		x
Cancellation of Time Zones	C.14.4			x	
Minimum number of slots per hour	C.15.1	x	x		x
Slot bookings	C.15.2	x	x		x
Unforeseen events	C.15.3		x	x	
Manifesting across multiple Time Zones	C.16.1	x			
Regulation of charges	D				
Determining certain matters for these mandatory standards (e.g., TTT, minimum number of slots, truck trips)	E				x
Invoicing of financial penalties	G				x
Ministerial direction					
Minimum lifts per hour (36 lifts per hour)	1.A		x		x
Charges per lift (\$15 per lift, \$30 after the minimum lifts)	1.A		x		x
Rail windows cancellation (48 hours prior)	4				x

Appendix C – Summary of PBLIS Components to Drivers

Key Behavioural theme 6: Road operators continue to favour daytime operations	Ref	Customer and warehouse opening hours are mainly daytime weekdays	Majority of boxes are staged	Resourcing constraints limit ability to operate 24/7	ECPs only operate during the day, as they are not covered by PBLIS
PBLIS mandatory standards					
Part B: Carrier Mandatory Standards					
Cancellation of slots	B.8				
Carrier booking and listing	B.9	x			x
Stevedore Impacted Trucks	B.11		x	x	
Unforeseen events	B.12.1				
Early Arrivals	B.12.3				x
Part C: Stevedore mandatory standards					
Truck servicing	C.13		x		
Cancellation of Time Zones	C.14.4				
Minimum number of slots per hour	C.15.1	x		x	x
Slot bookings	C.15.2				
Unforeseen events	C.15.3				
Manifesting across multiple Time Zones	C.16.1				
Regulation of charges	D				
Determining certain matters for these mandatory standards (e.g., TTT, minimum number of slots, truck trips)	E				
Invoicing of financial penalties	G				
Ministerial direction					
Minimum lifts per hour (36 lifts per hour)	1.A				
Charges per lift (\$15 per lift, \$30 after the minimum lifts)	1.A				
Rail windows cancellation (48 hours prior)	4				

Appendix D – Summary of Drivers and Evidence in Castalia CBA report (2022)

Theme	Driver	Supporting evidence from Castalia CBA of PBLIS performance (2022)	Page
Theme 1	Faster and more consistent TTTs	"TTTs down from an average of 32.1 minutes in 2011 to 30.6 minutes in 2021, a 4.7 per cent improvement"	14
	Containers density per truck not at full capacity	"Container density (containers carried per truck) has barely changed since 2011, suggesting that there has also been no improvement". "Historical data suggests that container densities have not changed significantly, increasing only by 5.6 per cent between 2011 and 2021 (annual averages)."	vii 24
	Two way loading opportunities to avoid empty running not fully utilised	-	-
	Use of multiple stevedores may have downstream impacts and is not covered under PBLIS	-	-
Theme 2	Overbooking and hoarding slots	"Road carriers expressed desire for stevedores to release more slots during peak hours to avoid a 'scramble' for slots."	20
	Slot cancellations within 48 hours incur no penalty	-	-
	High demand for slots during preferred times	"Road carriers would prefer to see stevedores increase their capacity to service more trucks at peak periods while minimising the variations in TTT."	21
	Coordination requirements constrain the ability to improve slot booking systems	-	-
Theme 3	Window sitting	-	-
	Rail operator behaviour is largely unaffected by PBLIS	"To the extent that PBLIS assists in the decongestion of traffic around the port, it may make truck transport more attractive and hence, all things being equal, tip the choice away from rail and in favour of roads."	45
	Regional container trains are not at full capacity, impacting overall window utilisation	-	-
	Road is prioritised over rail	-	-

Appendix D – Summary of Drivers and Evidence in Castalia CBA report (2022)

Theme	Driver	Supporting evidence from Castalia CBA of PBLIS performance (2022)	Page
Theme 4	Growth in ship size and vessel exchange has not been accompanied by growth in slots	"Rising container volumes could be one factor driving increases in TTT [since 2016]".	26
	Meeting but not exceeding minimum lift requirements	"The minimum requirement does not seem to affect performance as stevedores can continue to release the minimum slots required while accepting the slots that make business sense."	20
	'Unforeseen events' provide some leniency, but can be used to mask penalties	-	-
	PBLIS has improved road efficiency, but structural limitations of rail use persist	-	-
Theme 5	TTT in ECPs not covered under PBLIS	-	-
	Slot rigidity constrains flexibility	"One of the criticisms that has been levelled at PBLIS in previous consultations was that it may have stifled some potentially more efficient voluntary outcomes."	vii
	PBLIS trucks are prioritised over stack runs	-	-
	Reporting requirements add to administrative impost	-	-
Theme 6	Customer and warehouse opening hours are mainly daytime weekdays	"Given the limited working hours of downstream supply chain participants, ..., there is a significant preference among road carriers for peak hour slots for truck servicing."	20-21
		"Without the rest of the supply chain working 24/7, the problem of excess demand for booking slots will remain."	46
	Majority of boxes are staged	"According to a 2012 Colmar Brunton Survey commissioned by Sydney Ports, key stakeholders such as quarantine officials, container parks and storage yards and warehouses are not open 24/7 which is resulting in double-handling of containers an cost overruns."	30
	Resourcing constraints limit ability to operate 24/7	-	-
	ECPs only operate during the day, as they are not captured by PBLIS	-	-

Limitation of our work

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Interview guide for the Port Botany Landside Improvement Strategy

Introduction

Deloitte is supporting Transport for NSW (TfNSW) to undertake research and analysis on the impact of Port Botany Landside Improvement Strategy (PBLIS) on the operations of stevedores, truck operators and rail operators.

The research inputs will be used to inform the independent review (the Review) of the Ports and Maritime Administration Act 1995 (the Act) and the Port Botany Landside Improvement Strategy (PBLIS), announced on 12 November 2021.

Note the Act is relevant for more than PBLIS, but this behavioural research is to cover PBLIS only.

The Review will consider:

- Whether the policy objectives of the Act remain current and whether the terms of the Act remain appropriate for securing those objectives.
- Whether any changes to PBLIS (in the Act, Regulation or Mandatory Standards) are required, considering:
 - what PBLIS has achieved;
 - what PBLIS is currently achieving;
 - any unintended impacts of PBLIS; and
 - whether PBLIS remains the best approach for promoting the economically efficient operation and use of and investment in land-based port facilities and port-related supply chain facilities. And, if so, whether these arrangements are appropriate, and if not, what are the alternative options.

Some feedback provided during the recent Regulation remake process has been deferred to this review for consideration.

In general, this part of the research aims to:

- Identify and explain the specific behavioural changes that have resulted from the introduction of PBLIS
- Seek to identify if PBLIS has contribute to any specific behaviour changes, or if these changes may have occurred without the introduction of PBLIS
- Identify rates of behaviour change during the operation of PBLIS (since 2010)
- Describe these behavioural changes by the different key segments (Stevedores, Truck operators and Rail operators)

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Your involvement

Deloitte and the TfNSW Freight Project team would be grateful if your company can make available a key contact or a small group of your team who have experience in working with PBLIS and have learnings, observations on how PBLIS has changed or influenced your company's decisions and operations.

For this research, Deloitte is proposing a 1-hour conversation where your representatives can share your experiences. This is not a structured interview, however the questions that will guide the interview are provided below for your reference.

Privacy and confidentiality

The interview will be led by a representative of the Deloitte Access Economics project team. Notes will be taken throughout the interview to provide a record of your response. Information gathered at this interview will be analysed and reported at a thematic level only. Our report will not attribute quotes individuals unless consent is requested and provided.

Interview questions – PBLIS

Background (5 minutes)

1. Can you tell us a bit about your business' operations?
2. What aspects of PBLIS affect your business?

Stevedore operations (15 minutes)

3. How have stevedoring operations changed following the introduction of PBLIS?
 - a. In your view, if PBLIS wasn't introduced, what would have changed?
 - b. What effect did you want it to have that it didn't achieve?
4. Thinking about stevedoring, from your perspective, which aspects of PBLIS have worked well, and which have not worked as well?
5. Over time has the operation of PBLIS changed the way you operate at Port Botany?
6. Thinking about stevedoring, have there been any unintended consequences arising from PBLIS?
7. Thinking about stevedoring, how do you think the statutory penalties have impacted decision making and operations of Stevedores?
8. Thinking about stevedoring, has PBLIS resulted in any differences between treatment of road or rail?

Road operations (15 minutes)

9. How have truck operations changed following the introduction of PBLIS?
 - a. In your view, if PBLIS wasn't introduced, what would have changed?
10. Thinking about trucking, from your perspective, which aspects of PBLIS have worked well, and which have not worked as well?
11. Thinking about trucking, were there other constraints in the supply chain which have affected the outcomes from PBLIS? e.g. curfews, vehicle access approvals, operating hours.
12. How have investments in road infrastructure affected the trucking industry's ability to meet its PBLIS obligations?

13. Thinking of trucking, what time of day is the most sought after in the VBS and why?
14. Thinking of trucking, have there been any unintended consequences arising from PBLIS?
15. Thinking of Trucking, how do you think the statutory penalties have impacted decision making and operations of trucking operators?

Rail operations (10 minutes)

16. How have rail operations changed following the introduction of PBLIS?
 - a. In your view, if PBLIS wasn't introduced, what would have changed?
17. Thinking about rail, from your perspective, which aspects of PBLIS have worked well, and which have not worked as well?
18. Thinking about rail, have there been any unintended consequences arising from PBLIS?

General (15 minutes)

19. Overall, how do you think PBLIS is performing?
20. Are you aware of any informal arrangements or business relationships that industry has used to work around or better manage under PBLIS?
21. To what extent are there existing arrangements in the supply chain that constrain mode choice for land transport carriers in the port supply chain e.g., customer contracts, customer shipping line / stevedore choice, empty container park access and availability, other existing relationships?
22. Are there other non-price factors that affect your business operation and constrain your operation?
23. Thinking about stevedores, road and rail operators, do you see any opportunities for change or further refinement of PBLIS? If so, what are they?
24. More broadly, what further areas of opportunities can you identify? For example, further up the chain to IMTs and ECPs etc?
25. How has PBLIS enabled or impaired operators to manage disruption (e.g. less traffic, accidents, staff shortages, pandemics)?