Australian Government
Australian Customs and Border Protection Service

Time Release Study 2008


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Contents

Introduction

The 2008 Time Release Study (TRS) is the second undertaken by the Australian Customs and Border Protection Service. In this report, import performance is measured for the same period (24 to 30 September) and compared against the 2007 results, providing an indication of performance changes between the reporting periods.

This document should be read in conjunction with the 2007 report which provides important background material and information regarding the methodology, sample period and measurement intervals.

Overall the second TRS report shows improved trade facilitation outcomes via faster cargo clearance across both air and sea freight. The study shows earlier reporting by industry has had flow-on effects in border agency performance and overall release and clearance times.

The timing of the 2008 TRS largely pre-dates the following significant events:

- The global economic crisis affecting cargo volumes, particularly sea freight;
- ICS enhancements (including certainty of status and declaration status advice) and broker education sessions (refer ACCA 08/10); and
- The refined cargo intervention strategy reducing Customs and Border Protection interventions in both air and sea cargo.

Consequently, it is expected that the impact of these events will be more evident in the forthcoming 2009 Time Release Study.

Please note the use of colours to highlight differences between 2007 and 2008 figures. Where performance has improved, the figures are highlighted in **green**. Where performance has declined, figures are highlighted in **red**. Black figures show no change from the previous year.

Report Highlights

The 2008 TRS results again confirm the clear relationship between reporting of cargo and its assessment and release by the border agencies. Early industry reporting means most import cargo is fully risk assessed and released before it is physically available for collection.

- Over 70% of all consignments (72% in sea) are now released or ready to pay at the time of arrival of the vessel or aircraft, an improvement of between 6 to 7% over the equivalent 2007 results.
- Earlier reporting has a flow-on effect in border agency processing, with a 3 to 4% reduction in the number of consignments held at time of arrival.
- On average the key arrival to release and clearance timings for sea cargo improved by better than sixteen hours.
- The average arrival to release and clearance timings for air cargo improved by more than two hours.
- There remains room for improvement in the reporting and subsequent clearance of high value air cargo (i.e. goods worth more than $1,000, requiring an import declaration).
- Sea imports from New Zealand are cleared and released earlier than cargo from any other major trading partner. Significantly these imports from New Zealand also showed the greatest year on year improvement in clearance times.

Key Findings

Table 1.1 Key Events Compared with Arrival Time						
	Average Time – Sea Cargo (Days)			Average Time – Air Cargo (Days)		
	2007	2008	Change	2007	2008	Change
Arrival to Documents[1]	-2.4	-3.0	-0.6	0.04	-0.03	-0.07
Arrival to Customs Unimpeded	-1.5	-2.2	-0.7	0.2	0.1	-0.1
Arrival to Ready to Pay	-1.1	-1.7	-0.6	0.2	0.2	0.0
Arrival to Release	**1.3**	**0.6**	**-0.7**	**0.3**	**0.2**	**-0.1**
Arrival to Clearance	1.8	1.2	-0.6	0.3	0.2	-0.1

The key events table shows that industry reporting improvements and border agency processing efficiencies have resulted in significant improvement to release and clearance times. For example, sea cargo was released on average around 16 hours earlier in 2008 than in 2007, while air cargo release times improved by an average of more than 2 hours.

Analysis indicates that overall performance improvements have primarily resulted from earlier cargo reporting and declaration in both the air and sea environments. The expansion of e-commerce by industry has enabled earlier information exchange between industry parties and with border regulatory agencies. This early reporting has translated into improved clearance times.

Border agencies have been able to maximise the earlier reporting of information, resulting in the earlier achievement of *ready to pay*, *release* and *cleared* status.

[1] Definitions are contained in Table A.1 in Attachment A

Table 1.2 Cargo Status at Arrival						
	Sea Cargo (Percentage)			Air Cargo (Percentage)		
	2007	2008	Change	2007	2008	Change
Released	40%	48%	+8%	63%	69%	+6%
Ready to Pay	25%	24%	-1%	1%	1%	0%
Total Unimpeded	**65%**	**72%**	**+7%**	**64%**	**70%**	**+6%**
Impeded	15%	11%	-4%	20%	17%	-3%
Documents Incomplete	20%	17%	-3%	16%	13%	-3%

The impact of earlier reporting is confirmed in the cargo status table above, with a 3% reduction in the total number of consignments with incomplete documentation. This has contributed to a 6 to 7% increase in the number of unimpeded consignments at the time of arrival. Conversely there has been a 3 to 4% reduction in the number of consignments held at time of arrival.

A slight reduction in sea cargo *ready to pay* of 1% was more than offset by an 8% improvement in cargo with fully *released* status, resulting in a 7% overall improvement in unimpeded cargo at the time of arrival.

Over 70% of all consignments (72% in sea) are now *released* or *ready to pay* at the time of arrival of the vessel or aircraft, an improvement of between 6% and 7% on the 2007 results.


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Sea cargo

A breakdown of sea cargo performance by cargo type shows improvements across all containerised cargo, representing over 97% of all inbound sea cargo during the sample period. The greatest performance improvements occurred in Full Container Load (FCL) cargo, reflecting increasing sophistication in supply chain management and electronic commerce amongst larger trading companies.

Industry reporting improvements were noted across all four document types (Impending Arrival Report, Ocean Bill of Lading, House Bill and Declaration). The most notable improvement is for impending arrival reporting. The trend to earlier reporting continues in cargo reporting and declaration.

Timings for physical cargo movement, from arrival to availability have not changed significantly, confirming that port processes are consistent and the physical flow of cargo movement operates as a well defined and repeatable process.

Table 2.1: Sea Cargo Processing Breakdown

Percentage of Cargo Lines	All Cargo 100%		FCL Cargo 83%		LCL Cargo 14.5%		B/Bulk 2.5%		Bulk 0.1%	
Interval	**2007**	**2008**	**2007**	**2008**	**2007**	**2008**	**2007**	**2008**	**2007**	**2008**
Arrival to Documents	-2.4	-3.0	-2.8	-3.4	0.1	-0.5	-4.7	-4.6	-5.2	-4.3
Arrival to Customs Unimpeded	-1.5	-2.2	-1.9	-2.7	1.0	0.6	-3.9	-4.1	-4.8	-3.5
Arrival to Ready to Pay	-1.1	-1.7	-1.5	-2.2	1.4	1.4	-2.9	-2.9	-2.4	-3.4
Arrival to Availability	1.2	1.2	0.7	0.7	4.1	4.1	2.1	3.1	1.8	4.0
Arrival to Release	**1.3**	**0.6**	**0.8**	**0.1**	**4.2**	**3.8**	**0.5**	**-0.6**	**2.3**	**-2.5**
Arrival to Clear	1.8	1.2	1.3	0.7	4.3	4.0	1.1	-0.1	3.5	-2.2

Industry themselves adopted a number of strategies during 2008 to streamline cargo movements which may reflect in the improved performance figures. These include initiatives such as greater use of ecommerce between industry partners (such as the introduction of electronic delivery orders) to streamline processes and facilitate earlier lodgement of documents. Customs and Border Protection continues to encourage industry initiatives that support paperless trading.

Please note that bulk and break bulk cargoes are highly variable, ranging from bulk food to oil or chemicals and from motor vehicles through to plant machinery or wood packs. Additionally, the sample size is relatively small with, for example, only 45 bulk consignments imported during the TRS period. For this reason, it would be difficult to reach general conclusions from the changes in TRS bulk or break bulk figures.

Additional charts showing the breakdown of reporting over time are included in Attachment C.

Status at Arrival and Availability

Table 2.2: Sea Cargo Status at Arrival

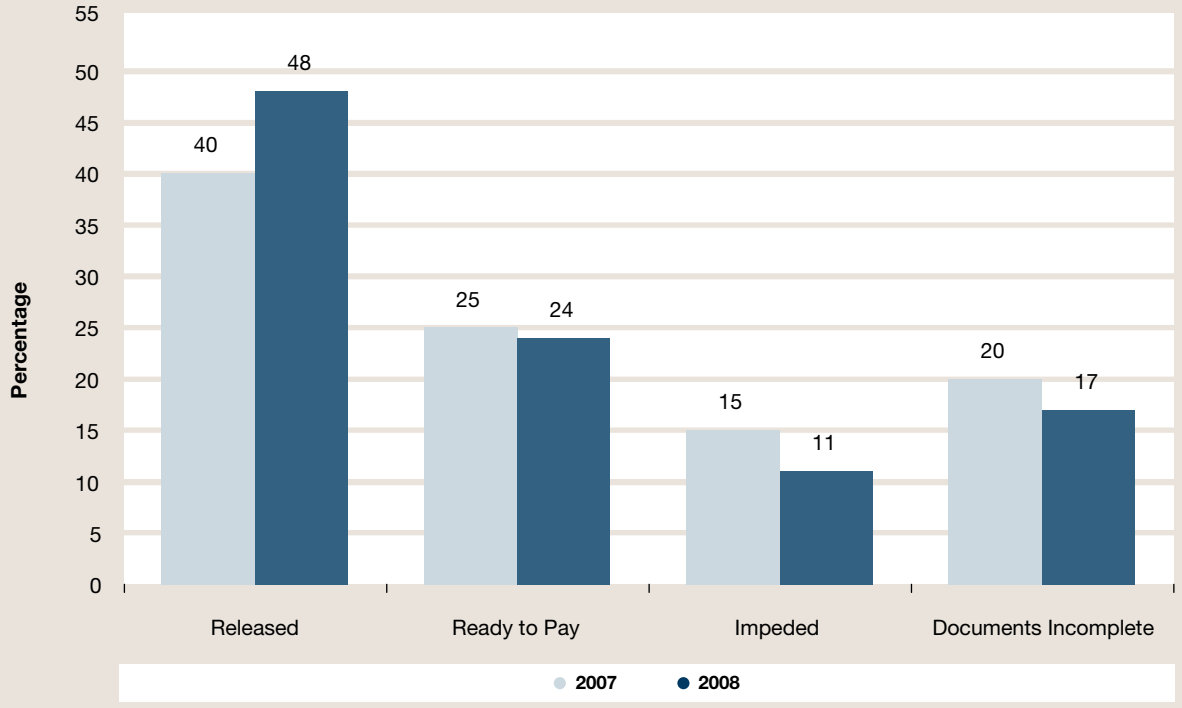
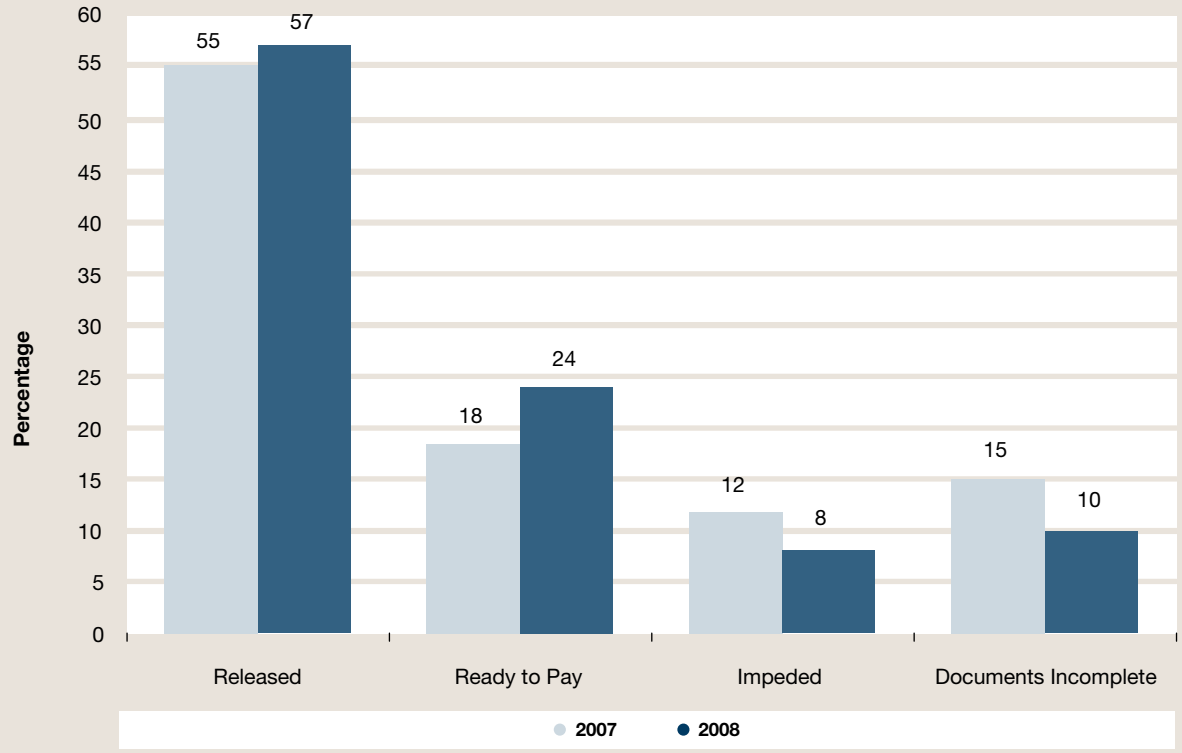


Table 2.3: Sea Cargo Status at Availability



Tables 2.2 and 2.3 show sea cargo status at key intervals and compares 2007 and 2008 relative performance.

Encouragingly, the volume of unreported cargo at time of commercial availability has reduced by one third over the 2007 figures. Again, performance improvements in this key indicator have had flow on effects for border agency processing, with only 8% of cargo impeded at availability. This represents a reduction in impeded cargo of 33% over 2007 figures.

Importantly, 81% of all cargo is either *released* or *ready to pay* (free of all border agency impediments and solely awaiting payment by the broker or importer) at time of first commercial availability. The equivalent figure from 2007 was 73% of cargo, showing an 8% improvement over the past year.

Goods Country of Export

Table 2.4: Country of Export							
	Number of Consignments	Arrival to Document Submission		Arrival to Release		Arrival to Clearance	
		2007	2008	2007	2008	2007	2008
ALL	**35,295**	**-2.4**	**-3.0**	**1.3**	**0.6**	**1.8**	**1.2**
China	12,076	-1.9	-2.2	1.5	0.9	1.8	1.2
United States	2,473	-2.7	-2.5	1.3	1.2	2.0	1.9
Hong Kong	1,951	-1.3	-1.4	1.7	1.4	1.9	1.6
New Zealand	1,679	-2.4	-3.7	0.3	-1.1	0.6	-0.8
Thailand	1,637	-3.4	-3.5	0.3	0.0	1.0	1.0
Japan	1,350	-4.2	-3.8	0.3	-0.2	0.9	0.2
Malaysia	1,310	-2.5	-2.7	0.8	0.6	1.5	1.2
Germany	1,237	-3.0	-5.2	1.1	0.2	1.4	0.7
Indonesia[2]	1,087		-3.0		0.7		1.4
Taiwan	1,083	-2.0	-2.1	1.4	1.3	1.6	1.6

Across the board improvements in cargo performance were noted for our top ten trading partners. Performance improvements in each of the three major timing intervals were recorded, in line with the overall study results.

Imports from New Zealand had the most significant improvement across all intervals, with New Zealand imports now fully cleared on average nearly twenty hours prior to vessel arrival. Imports from Japan and Germany also recorded higher than average performance increases.

Specific factors affecting performance, including free trade agreements, commodity type and cargo type (e.g FCL/LCL breakdown) have not been analysed at this time and may help explain the significant differences in *release* and *clearance* times between countries.

[2] Indonesia was not represented in the top ten countries of export in TRS 2007.

Other Factors

Day of Week

TRS 2007 showed that cargo processing was slightly slower on weekends. In the 2008 study, the "weekend effect" has been largely removed, with Mondays and Wednesdays being the two slowest days for cargo clearance, although this effect is marginal.

The 2008 figures show the day of arrival has had relatively little effect on cargo performance and are consistent with industry efforts to extend operating hours in landside logistics.

Attachment C contains graph C.2 which charts 2008 TRS measurements broken down by day of arrival.

Port by Port Performance

Table 2.5 over page confirms overall performance improvements by all parties involved in the processing and clearance of imported goods. Additionally, all ports registered performance improvements, with Brisbane improving performance in 14 out of 18 measurement categories.

The single measure to decline was the *Ready to Pay* to *Release* interval. This may have been an early indicator of the Global Economic Crisis tightening monetary supply, rather than any change to the reporting and clearance processes.

Table 2.5: Top Five Discharge Sea Ports Comparison								
Cargo Event Measure	All Ports		2008 Port by Port Performance Measurement					Primary Responsibility
	2008	2007	ADL	BNE	FRE	MEL	SYD	
Arrival to IAR	-9.6	-8.0	-15.4	-11.3	-6.5	-9.6	-9.4	Shipping Agent
Arrival to HBL	-7.4	-6.8	-11.3	-8.6	-4.3	-7.7	-7.2	Freight Forwarder
Arrival to OBL	-7.2	-6.7	-12.0	-8.8	-4.5	-7.3	-6.9	Shipping Company
Arrival to Declaration	-4.1	-3.4	-4.3	-4.4	-1.8	-4.6	-4.0	Brokers
Arrival to Documents	-3.0	-2.4	-3.7	-3.7	-0.9	-3.3	-2.9	All Reporters
Documents to Customs Unimpeded	0.8	0.9	0.8	1.0	0.8	0.8	0.8	Customs and Border Protection
Arrival to Customs Unimpeded	-2.2	-1.5	-2.9	-2.8	-0.2	-2.5	-2.1	Consolidated
Arrival to RTP	-1.7	-1.1	-2.5	-2.6	0.3	-2.1	-1.5	Consolidated
Documents to RTP	1.3	1.4	1.2	1.1	1.2	1.2	1.4	Border Agencies
Customs Unimpeded to RTP	0.5	0.5	0.5	0.2	0.5	0.4	0.6	BSG (formerly AQIS)
Arrival to Release	0.6	1.3	0.2	0.1	2.7	0.2	0.8	Consolidated
RTP to Release	2.4	2.3	2.7	2.7	2.4	2.3	2.3	Brokers
Arrival to Clear	1.2	1.8	0.9	0.5	3.4	0.7	1.2	Consolidated
Release to Clear	0.5	0.5	0.7	0.4	0.7	0.5	0.4	BSG (formerly AQIS)
Arrival to Discharge (Break Bulk)	3.1	n/a	0.4	0.5	1.0	6.0	0.7	Stevedores
Arrival to Discharge (Bulk)	4.0	n/a	1.7	No activity	12.4	2.1	2.5	Stevedores
Arrival to Discharge (FCL)	0.7	0.7	0.4	0.6	0.5	0.6	0.8	Stevedores
Arrival to Unpack (LCL)	4.1	4.1	4.0	3.6	9.5	3.3	4.2	Reporters

Air cargo

Air cargo performance has improved by similar percentages to sea, although the time differences are shorter due to the faster turnaround required for air cargo. Marginal improvements are seen in self assessed clearances (SACs) across both border agency and industry practices, reflected in earlier release and clearance times.

Note that the apparent 0.6 day improvement in physical availability reflects as far as we are aware more accurate reporting of receipt and unpack times by depot operators rather than major reductions in the duration of physical cargo handling.

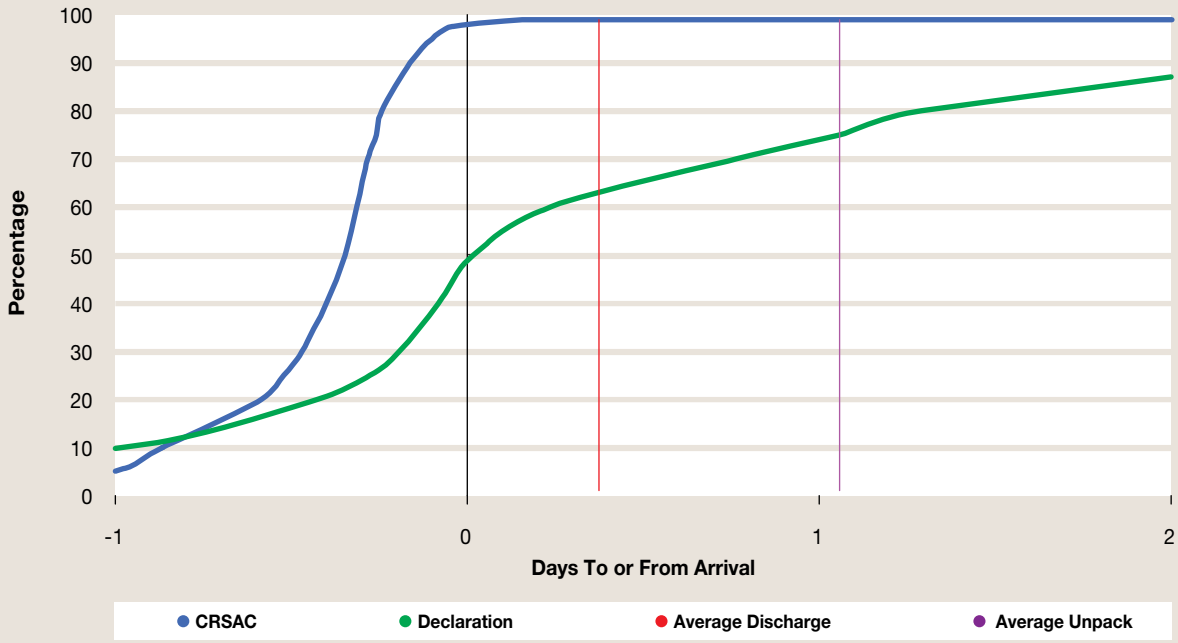
Table 3.1: Air Cargo Processing Breakdown

Percentage of Cargo Lines	All Cargo Types 100%		CRSAC 80%		Declaration 20%	
Interval	2007	2008	2007	2008	2007	2008
Arrival to Documents	0.0	0.0	-0.2	-0.2	1.0	0.8
Arrival to Customs Unimpeded	0.2	0.1	-0.1	-0.1	1.1	0.9
Arrival to Ready To Pay	0.3	0.2	0.0	-0.1	1.2	1.0
Arrival to Availability	1.6	1.0	1.6	1.0	1.6	1.1
Arrival to Release	**0.3**	**0.2**	**0.0**	**-0.1**	**1.4**	**1.2**
Arrival to Clearance	0.3	0.2	0.0	-0.1	1.4	1.2

Table 3.2 over page shows significant performance increases for air cargo requiring a full import declaration. Similar to sea cargo, an improvement in import declaration lodgement times of 4.8 hours (0.2 days) was reflected with similar improvements in all other processing steps.

There remain significant opportunities for performance improvement in high value air cargo (consignments over $1,000 AUD therefore requiring an import declaration). The following graph shows that less than 50% of all declarations are lodged prior to arrival with only 63% lodged at the time of commercial availability.

Table 3.2: CRSAC to Declaration Comparison



Status at Arrival and Availability

Table 3.3: Air Cargo Status at Arrival

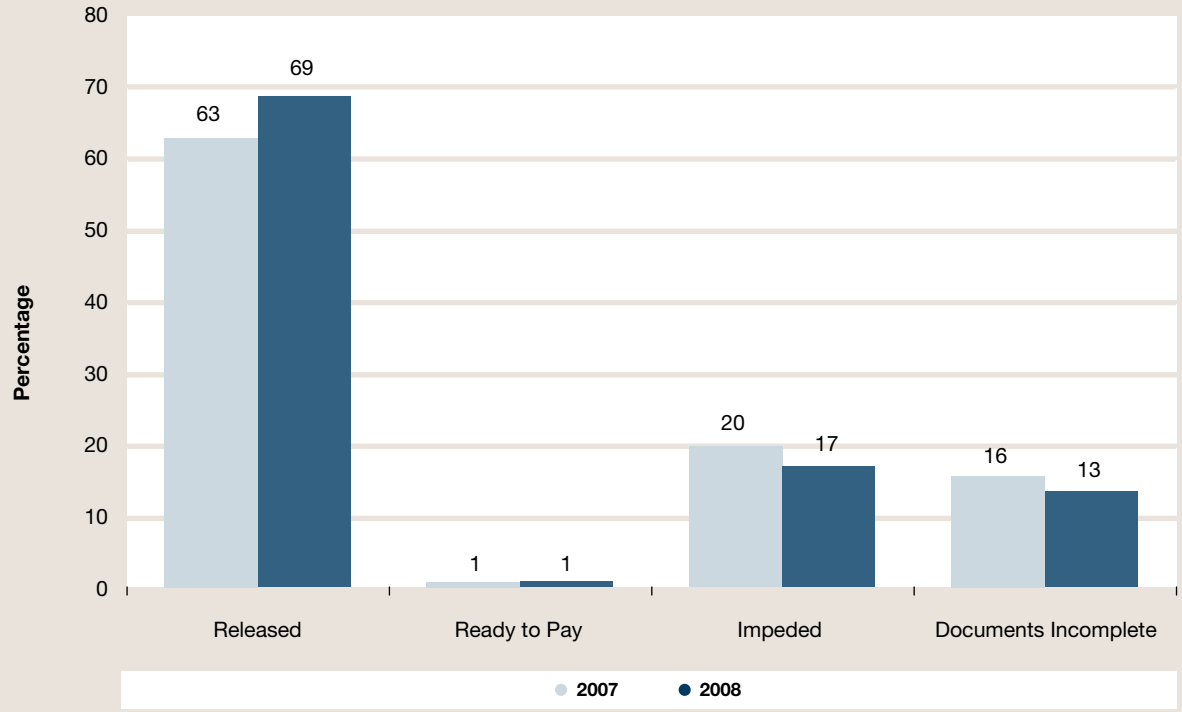
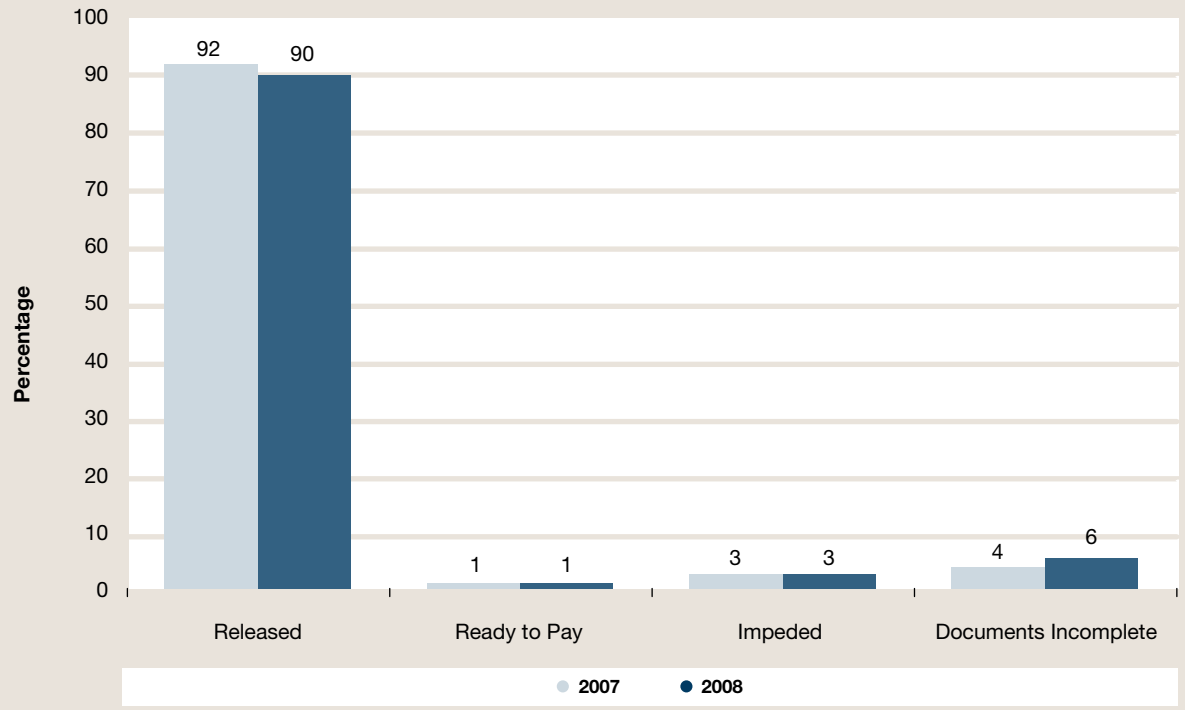


TABLE 3.4: Air Cargo Status at Availability



Tables 3.3 and 3.4 show air cargo status at key intervals and compares 2007 and 2008 relative performance.

Cargo status at arrival has generally improved from 2007 figures, with nearly 10% more cargo released and a reduction of nearly 20% in the number of unreported consignments.

On face value it appears that cargo status at commercial availability has declined from 2007, with higher levels of unreported consignments reducing the percentage of released consignments. However, this apparent decline in performance appears to be largely due to improvements in the reporting of availability. Consequently, cargo status at availability is not a like-for-like comparison between 2007 and 2008.

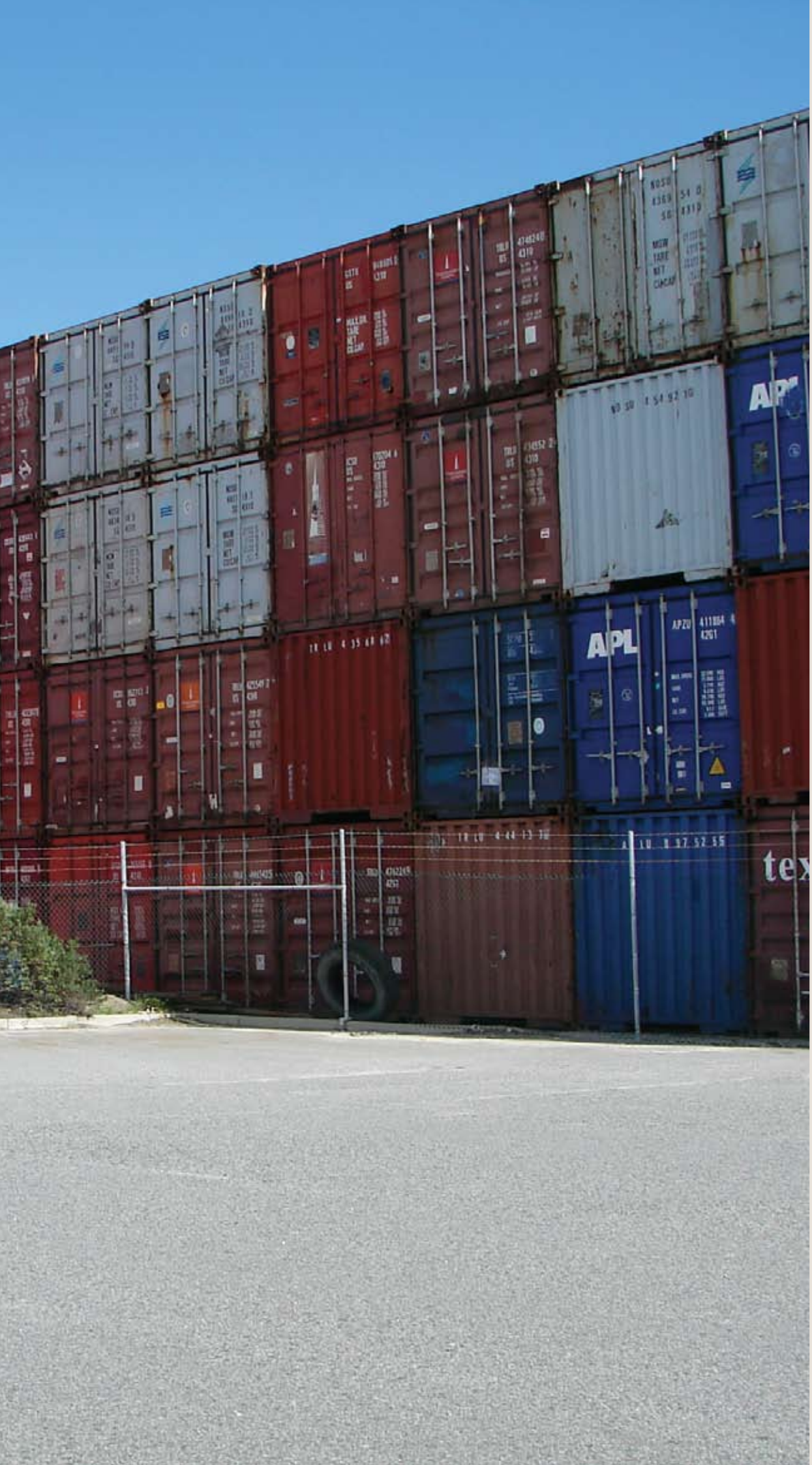
Attachment A: Glossary

A.1: Key Event Table

Event	Definition
Availability	The time a consignment becomes physically available for delivery.
Clearance	The point at which all border agency controls are completed and the consignment is completely unimpeded.
Customs Unimpeded	Indicates that Customs and Border Protection risk assessment evaluation and processing is complete. Payment is still required and the goods may still be subject to BSG/AQIS control.
Documents	When a consignment is fully reported and declared to Customs and Border Protection, including all cargo reports and declarations.
Ready to Pay	Indicates that border agency controls are completed and duties taxes and charges are yet to be paid.
Release	The time at which Customs and Border Protection controls are completed and duties, taxes and charges have been paid. At this time the goods are available for delivery and have a “Conditional Clear” status, but may remain subject to BSG/AQIS controls.

A.2: Acronyms

Acronym	Definition
ACCA	Australian Customs Cargo Advice
ADL	The port of Adelaide
AQIS	Australian Quarantine and Inspection Service (refer BSG)
BNE	The port of Brisbane
BSG	Biosecurity Services Group (formerly AQIS)
CRSAC	Cargo Report, Self Assessed Clearance
FCL	Full Container Load
FRE	The port of Fremantle
HAWB	House Air Waybill
HBL	House Bill of Lading
IAR	Impending Arrival Report
LCL	Less than Container Load
MAWB	Master Air Waybill
MEL	The port of Melbourne
OBL	Ocean Bill of Lading
SAC	Self Assessed Clearance
RTP	Ready to Pay
SYD	The port of Sydney
TRS	Time Release Study. A method endorsed by the World Customs Organization (WCO) to measure customs performance in trade facilitation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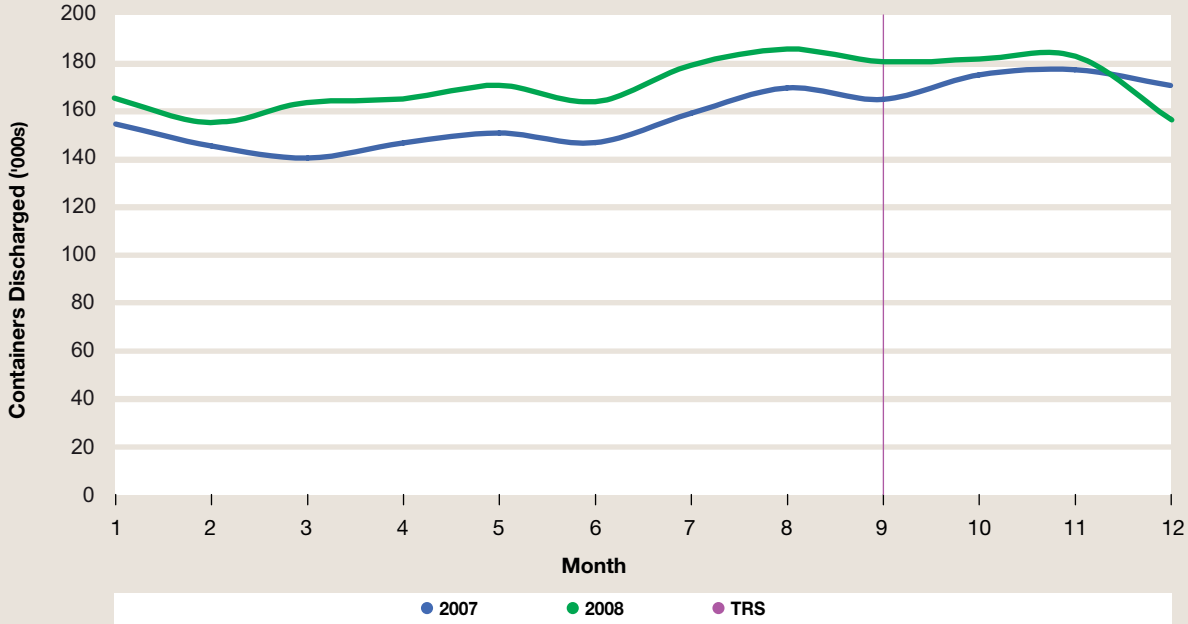
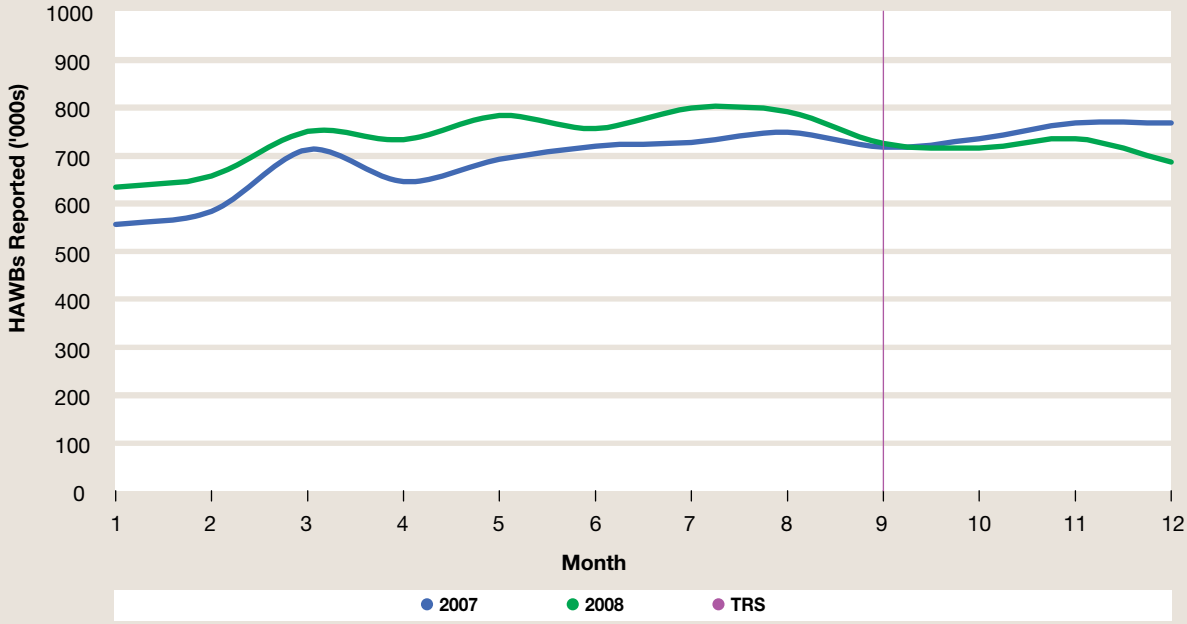
Attachment B: Cargo Volumes

B.1: Total Containers Discharged Per Month

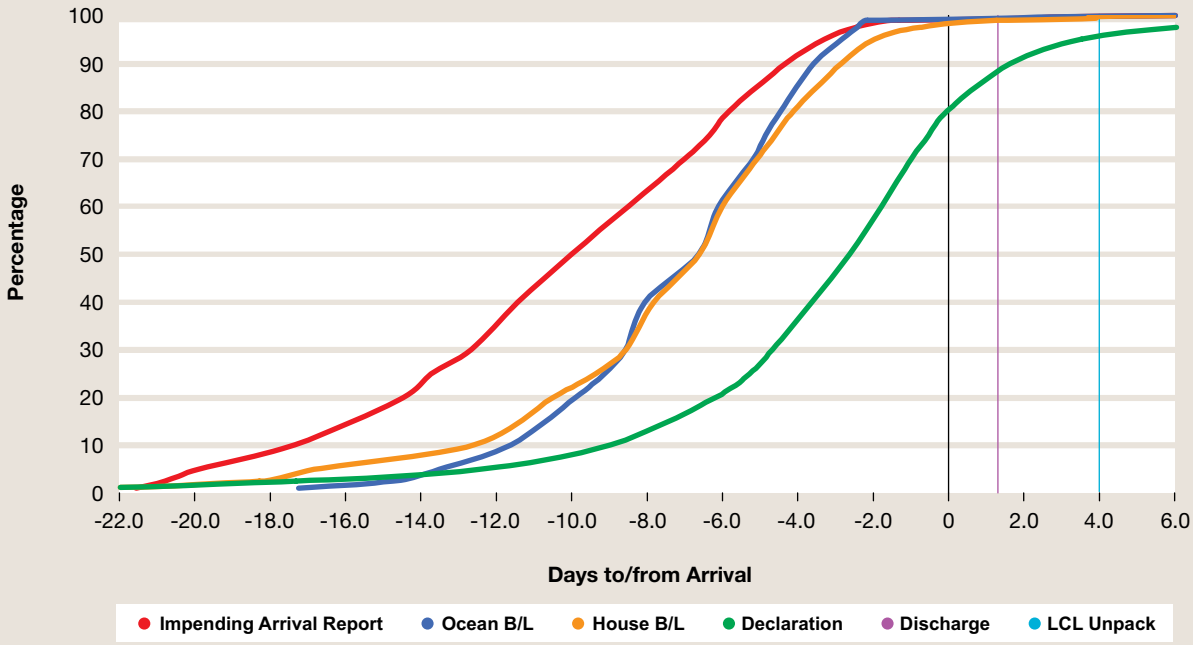


B.2: Total House Air Waybills Reported Per Month

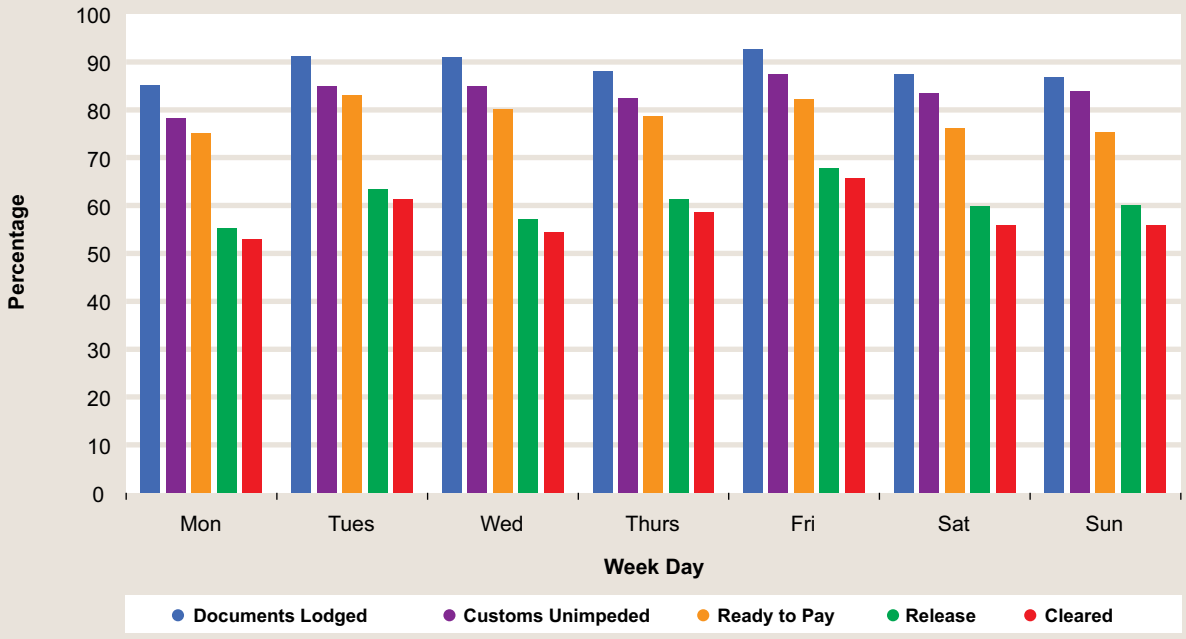


Attachment C:
Supplementary Sea Cargo Tables

C.1: Sea Cargo Document Submission



C.2: Cargo Events Completed by Day of the Week

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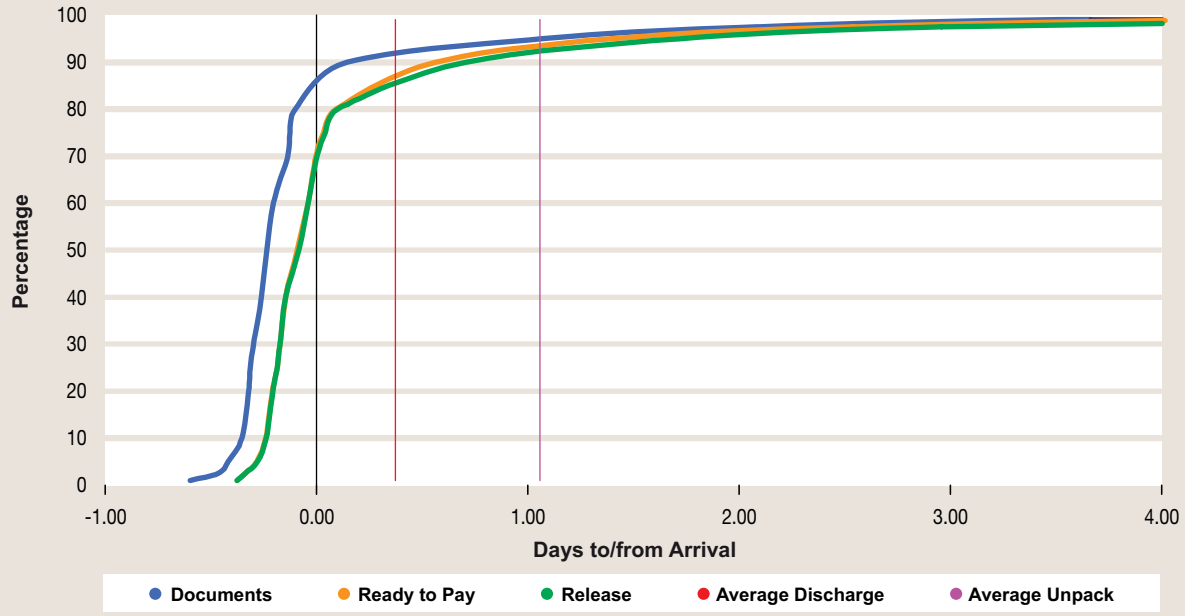
Attachment D:
Supplementary Air Cargo Tables

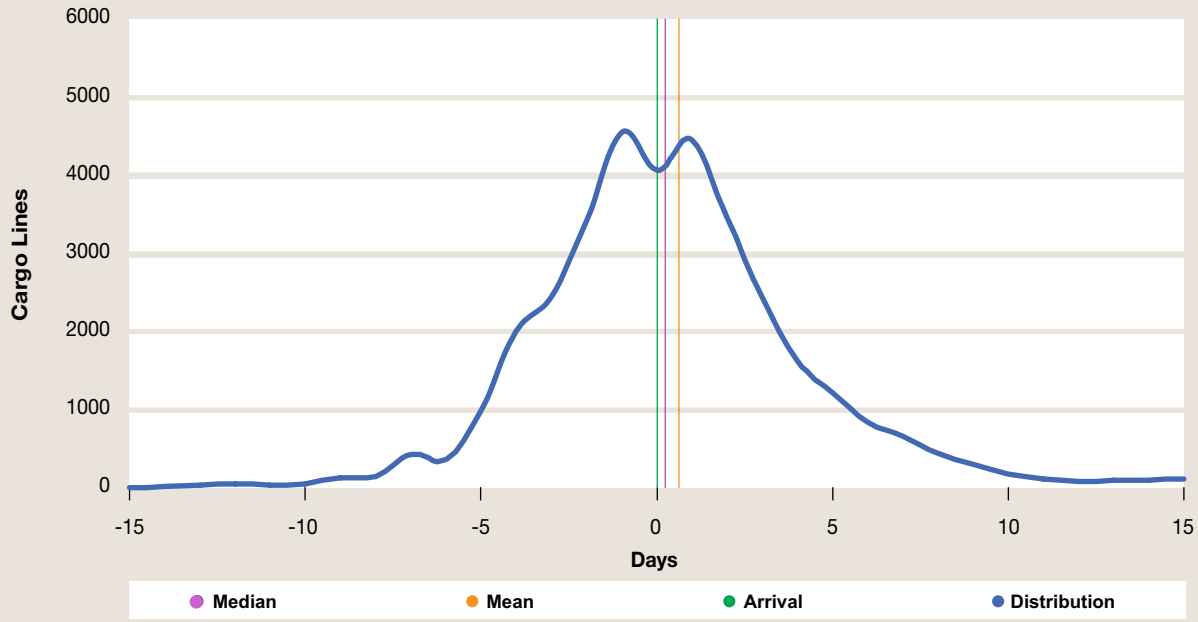
D.1: Air Cargo Arrival Timings



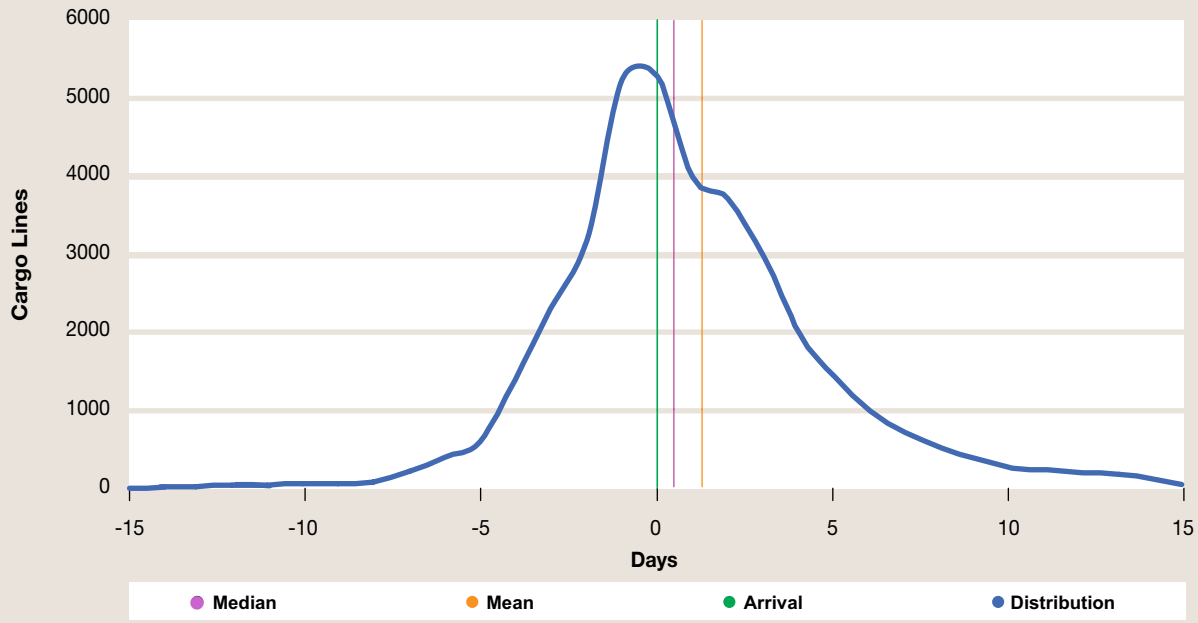
Attachment E:
Descriptive Statistics (TRS 2007 & 2008)

Representative statistics for the study were obtained from frequency distributions prepared using the interval from Arrival to Release for each sea cargo line in the sample, with values rounded to the nearest whole day.

E.1: TRS 2008 – Release Distribution



E.2: TRS 2007 – Release Distribution



E.3: TRS 2008 Descriptive Statistics		
Arrival to Release	**2008 (Days)**	**2007 (Days)**
Mean	0.63	1.25
Standard Error	0.02	0.02
Median	0.23	0.47
Mode	-1	0
Standard Deviation	4.43	4.59
Sample Variance	19.60	21.07
Kurtosis	7.50	11.69
Skewness	1.58	2.42
Range	55.89	51.50
Minimum	-19.67	-14.08
Maximum	36.22	37.42
Sum	22392.51	45900.43
Count	35270.00	36852.00

Kurtosis

Kurtosis is a measure of whether the data are peaked or flat relative to a normal distribution. For a normal distribution kurtosis is 0. The subject data are highly peaked with very thin tails to left and right. This measure confirms as seen in the graphs, that the timing of customs release is concentrated around arrival.

Skewness

The amount to which the data are skewed to one side or another can help establish which measure best represents the population.

Skewness for a normal distribution is zero. The measures above show that the subject population is distinctly skewed. The skew here is positive showing that the right tail is longer than the left tail.

In business terms, this skew taken together with the concentration of the data around arrival, shows that a few consignments do take a relatively long time to gain customs release (less than 1% are not released within 1 month).

For skewed distributions such as this, the median is a more representative measure of central tendency than the mean.

Changes 2007 to 2008

For 2008, the median interval from Arrival to Release shows a reduction from 11.3 hours, with median release in 2008 now occurring around 5.5 hours after arrival. Follow-up enquiries with industry have confirmed that the increasing adoption of e-commerce is generally enabling earlier reporting and declaration. This in turn contributes to earlier customs release.

(It is noted that the WCO's TRS methodology is based on the mean or average time to release. While improvement in the average for the 2008 study has been larger than that for the median, its significance is not as great because it is a less representative measure for skewed populations such as these.)

A change in the shape of the distribution for 2008 is also evident by flattening of the peak accompanied by a reduction in skew. The data shows that for 2008 a significant number of consignments are being dealt with earlier. In 2007, the most frequently occurring time of customs release to the nearest whole day was at arrival, a mode of 0; while for 2008 it was 1 day before arrival, a mode of minus 1.