



**Study on Timeline for Export and
Import of Containers at
Jawaharlal Nehru Port Trust,
Chennai Port Trust and APSEZ
Mundra**



BRUEF
EMPOWERING GROWTH

May 2018

Highlights of the May Report

- The port dwell time for import increased at the JNP and Mundra, whereas at the Chennai port the dwell time decreased from 55:38 hours to 45:41 hours.
- The port dwell time for exports saw a decrease at all the three ports, however, the most significant improvement was recorded by Mundra where the dwell time decreased from 106:58 to 94:57 hours.
- Share of DPD containers increased JNP from 34% to 37%.
- Share of DPE containers decreased at the JNP and Chennai, whereas at Mundra the DPE share increased from 73% to 75%.
- Import Custom release time increased in May across JNP, Mundra and Chennai from (34:59 to 37:56) hours; (31:51 to 33:25) hours and (31:16 to 31:57) hours respectively.
- JNP recorded its highest CFS dwell time for the year 2018 for exports in this month – 131:33 hours.
- ICD TKD recorded its lowest dwell time for import in 2018 in the month of May - 107:51 hours.
- At Chennai, the rake handling time was the lowest in 2018 in May-18 at 6:22 hours.
- In May 2018, the JNP-TKD rail transit time was the highest so far in the year 2018 at 78:07 hours. The figure was almost 18 hours more than the previous month's figure.

Escalated Dwell time at the JNP

The import dwell time stats for the month of May at the JNP are higher compared to previous months. One of the main reasons for the escalated figures is the four-day strike by transporters hauling containers. The strike resulted in significant delays in the evacuation of import containers from the terminals. The strike also led to congestion around the port area further escalating the dwell time. The impact of the strike can be understood from the fact that the import port dwell time in the first and last week of the May-18 (before and after the strike period) was 65:57 and 50:21 hours respectively, as compared to the month average of 73 hours.

The impact of the strike is not evident in the export dwell time at the port because the dwell time at the port is calculated once the container enters the terminal. Whatever delay was caused due to the strike impacted the movement of containers to the terminal – which is not captured in the port dwell time. However, in case of container originating from CFS, the impact of the strike was very much apparent. The CFSs recorded the highest dwell time in the month of May- 131:33 hours.

Contents

1. Introduction.....	3
1.1. Context of the study	3
1.2. Purpose and Objectives.....	4
1.3. Stakeholders	4
1.4. Methodology	5
1.5. Limitations of the Study	8
2. Port Profile	11
2.1. Jawaharlal Nehru Port	11
2.2. Chennai Port: Profile	12
2.3. Mundra Port: Profile.....	13
3. Import Process at Port, ICD and CFS	15
4. Export Process at Port, ICD and CFS	16
5. Comparison of Port Processes	17
6. Timeline Analysis.....	21
6.1. FCL Volume Handled by the Ports.....	21
6.2. Port Dwell Time.....	22
6.3. Transit Time - Import	23
6.4. Transit Time – Export.....	23
6.5. Customs Release Time	24
6.6. Container Freight Station (CFS)	25
6.7. Inland Container Depot (ICD) Tughlakabad	25
6.8. Time Taken by the Trade – Importers/Customs Brokers.....	26
6.9. Rake Handling	27
6.10. Shipping Line Delivery order.....	28
6.11. Partner Government Agencies	28
Annexure-I.....	35
Annexure-II	41

1. Introduction

India's rank in World Bank's Report, Doing Business 2018: Reforming to Create Jobs, has moved up to 100 as compared to 130 in the previous year. This massive jump in the ranking – highest ever recorded – is the result of reforms undertaken in the last four years in nearly thirty seven area covered under the indicators of starting a business, dealing with construction permits, getting credit, protecting minority investors, paying taxes, enforcing contracts and resolving insolvency. India has also been categorized among the top 10 improvers of 2018.

One of the most crucial indicators for business is 'Trading Across Borders' (TAB) wherein the time and cost required to release the cargo from the customs port in Delhi and Mumbai is captured through a questionnaire which relies on the perception of the traders and trading agents. Here, India's position has slipped by 3 places, currently at 146 out of 190 economies.

Parameter/Year	2015	2016	2017	2018
Overall ranking	134	131	130	100
Trading Across Borders	126	144	143	146

The World Bank's Doing Business 2018 estimates for the TAB through Mumbai and Delhi have

Parameter	Time to Export (Hours)		Time to Import (Hours)	
	Documentary Compliance	Border Compliance	Documentary Compliance	Border Compliance
2016	61	88	67	311
2017	58	85	65	307
2018	58	85	65	267

Source: www.doingbusiness.org

been given in Table 2 and 3 respectively.

1.1.Context of the study

In 2016-17, a study was undertaken by Federation of Indian Export organisations (FIEO) and Bureau of Research on Industry and Economic Fundamentals (BRIEF), which was commissioned by NITI Aayog, for a comprehensive dwell time analysis of the various procedures and agencies involved in the supply chain for export and import through the JNP. It involved an assessment of the time taken at various intervention points - dissecting the dwell time of containers from/to Container Freight Stations (CFS), Inland Container Depot (ICD) as well as Direct Port Entry/Delivery – entailing transportation of containers and other operational aspects, the process of assessment, registration and examination, among others. As a result of this study, a number of initiatives were taken at JNP including, discontinuation of use of physical copies of certain documents at the terminal, mandatory issuance of e-delivery order by shipping lines, introduction of RFID, and initiation of e-sealing facility for self-sealed containers.

In continuation with the previous study, **Logistics Division** in the **Ministry of Commerce** has entrusted FIEO and BRIEF with the mandate of carrying out the timeline analysis of various processes for different agencies at the ports. The present study has also been extended to Mundra Port and Chennai Port, in addition to the JNP for the year 2018. This study will specifically identify

dwelling time at various agencies in the EXIM process at the three ports, covering all aspects of border compliance and documentary compliance. This will be done through calculation of the time taken for import and export of Containers through JNP, Mundra and Chennai ports on a monthly basis along with the details of the time taken at every agency/place involved in the process.

This report also acts as a benchmarking tool for the targets for 2018-19 – for export and import – setting benchmarks for different agencies such as railways, customs, ports, and the partner government agencies. Apart from the dwelling time analysis, the report also delves upon the qualitative aspects of activities in the EXIM process to provide a comprehensive picture of the operations impacting the ease of doing business in India.

1.2.Purpose and Objectives

MONTHLY REPORTS

- a. To track supply chain of import/ export at JNP, Mundra and Chennai ports through identification of all the procedures, agencies and stakeholders
 - ✓ Inclusive of all formats of port entry and delivery such as Direct Port Delivery, Direct Port Entry, CFS facilitated, Factory stuffed and ICD facilitated through rail, etc.
- b. To provide a comparison of processes adopted at the selected ports for EXIM trade.
- c. To calculate the time taken for import and export of Containers through JNP, Mundra and Chennai ports on a monthly basis along with the details of the time taken at every agency/place involved in the process.
- d. To specifically identify dwelling time at various agencies in the EXIM process at the three ports. These would include, but not be restricted to, the following:
 - Border Compliance
 - ✓ Customs Clearance and Inspections: Time taken by the Customs for export and import clearances at select ports based on actual data as well as perception.
 - ✓ Port Handling: Time taken by Terminal, select CFS's and select ICD's for export and import.
 - ✓ Allied Agencies: Time taken by agencies such as FSSAI, PQ, etc during the course of import and export including chemical and Pharma sector.
 - ✓ No. of shipments physically inspected i.e. evaluating RMS clearances based on data as well as perception.

1.3.Stakeholders

- I. **Port/Terminal:** A port is the point of entry of goods and travellers into the country. It provides facilities for berthing of vessels and loading/unloading of cargo. A terminal is a part of the port, comprising of berth(s) which form a part of the terminal. It may be cargo-specific or designed to handle all types of cargo.
- II. **Customs:** It is the official department of the government with the authority to check goods and travellers. In international trade, the customs collect duty on imported goods as levied by the government, and provide clearance on both export and import goods.
- III. **Container Freight Station (CFS) and Inland Container Depot (ICD):** A Container Freight Station is an extension of the port. It is the custodian of goods after they are

evacuated from the terminal in case of import and before they are shifted to terminals in case of export. The process of customs clearance takes place inside the CFS. Inland Container Depots are located in different inland points away from the sea ports, offering services such as handling, temporary storage and clearance of goods.

- IV. **Partner Government Agency:** Partner Government Agencies (PGAs) are external agencies allied with the Central Board of Excise and Customs (CBEC) for providing clearance to sensitive goods such as food products, dyes, animal products, drugs etc. In congruence with the Budget, 2016-17, the CBEC initiated the Single Window Interface for Facilitating Trade (SWIFT) on 1st April 2016, as part of the 'Ease of Doing Business' initiative of the central government. The SWIFT – connected with CBEC's Electronic Data Interchange (EDI) gateway – is an electronic platform that enables the importer/exporter to file a single declaration entailing the nature of goods with the customs and the PGAs, in the form of an 'Integrated Declaration'; whereas for the PGAs, the system enables these agencies to upload the reports online. The PGAs which have been integrated with SWIFT include: Food Safety and Standards Authority of India (FSSAI), Plant Quarantine Information System (PQIS), Animal Quarantine and Certification Services (AQCS), Drug Controller (CDRUG), Wild Life Crime Control Bureau (WCCB) and the Textile Committee.
- V. **Railways:** Railways is one of the various modes of transporting the consignment between port and the inland destinations.

1.4. Methodology

The report records the time associated with the import and export of containers through the JNP, Chennai, Mundra and ICD Tughlakabad ports. *Recording of time starts when the container reaches the port till the time it is made available for the importer/CHA in case of imports, and from the time the custody of the container is handed over to ICD/CFS/port to the time the vessel sails off in case of exports.*

As a part of situational appraisal, **preliminary assessment** on parameters of border compliance, customs compliance and documentary compliance was done for all the three ports. **Business Process Analysis (BPA)** charts were developed for Import and Export – entailing the requisite documentation and processes undertaken – as a basis for time difference calculation between different steps, also taking cognisance of any peripheral activity being undertaken, which affects the dwell time. After the BPA charts were developed, **data was collected** from stakeholders such as ports (JNP, Chennai, Mundra and ICD TKD), customs, CFS operators (CFSAI and NACFS), rake operators (CONCOR) and partner government agencies (FSSAI, PQIS, AQCS, CDSCO, etc.). The data was collected and assembled on the basis of predetermined formats, following which, the process of **data analysis** was conducted, involving cleaning and analysis of the collected data through requisite tools. The analytical process involved stakeholder-wise calculation of dwell time and subsequently, consolidation of the same in the process chain of EXIM trade. Monthly reports are prepared post analysis of data for each month, starting January 2018. The reports summarised average timelines for analysed processes, custodians and finally, the export and import value chains as a whole.

The datasets used in the report were collected from the aforementioned stakeholders in the form of system generated date and time stamps recorded against each activity, as generated/collated by the

stakeholder. From each stakeholder's datasets, dwell time was calculated on the basis of custodianship i.e. the time for which a container remained in its custody before being made available for the trader/importer/agent for delivery. For certain stakeholders, the processes are linear and therefore the time analysis was done on the basis of duration between subsequent activities. For example, in case of terminals, import dwell time was calculated as the duration between container discharge and container out time and for export, the same was calculated as the duration between container in time and container loading time. On the other hand, in case of stakeholders such as customs, where the processes are not linear, dwell time was calculated as the summation of durations for which containers were held by the customs.

The data analysed in the report was recorded against container numbers and collated on a monthly basis. Therefore, dwell time of each stakeholder is calculated, every month, as the average of container-wise time taken from the first activity till the time the consignment was made available to the trader/importer/agent for delivery under each custodian. For instance, the import dwell time of containers at a terminal was calculated as the average time taken from container discharge to container out time. However, for the calculation of dwell time for port, which includes four terminals, weighted average of all the terminals was used.

Broadly, the following parameters have been considered during analysis and report preparation:

- a. The report provides the time analysis of import and export of containers through the JNP, Chennai, Mundra and ICD TKD ports.
- b. The import and export dwell time has been calculated on the basis of movement of containers, irrespective of size and commodity contained.
- c. Out of the total number of containers imported and exported at a port, the sample taken considers the containers under the import and export categories only and not containers meant for transshipment. Further, only Full Container Load (FCL) containers have been considered for this study and not empties.
- d. The representation of time in the tables, figures and charts used in this report has been done in the hour format i.e. *[h]:mm:ss*.
- e. The total time taken by each custodian has been calculated as the time taken from the arrival of the containers under its custodianship to the release of the time when it was made available to the trader for the delivery, and not as a summation of time taken for individual processes, even if they are linear in nature (except for customs). The reason for the same is that the sample size of each process under an agency differs, and therefore aggregating the time taken for individual processes to arrive at the overall dwell time becomes infeasible.
- f. While calculating the dwell time for containers, it was observed that some containers had significantly high dwell time. Since we take the average of the time taken to complete any activity in the complete process, these outliers tend to make the average skewed. In order to overcome this challenge, the calculated durations between any two activities, which were above 30 days (~720 hours), were not included in the calculation of dwell time. This has been done in order to overcome the effect of outliers (consignment that has

been dwelling with a particular custodian for some reasons not related to day-to-day trade, such as unclaimed cargo, legal issues, etc.). However, the study also evaluates the percentage of such outliers. For any data set to be analysed, the percentage of outliers has to be less than 4 per cent.

For maximising accuracy, the following measures have been taken during analysis of data from various stakeholders, which have been summarised as follows:

Port

- Only FCL containers have been taken for dwell time analysis. Empties have not been included in the analysis.
- For imports, only containers with vessel berthing time stamps in the same month as the month under analysis have been taken. For example, while analysing port data for January, only containers corresponding to vessel berthing in the month of January have been taken.
- For exports, only containers with in time in the same month as the month under analysis have been taken. For example, while analysing port data for January, only containers with in time in the month of January have been taken.

ICD Tughlakabad

- Based on the recording done in the datasets received, the segregation of containers for each month has been done by filtering the containers from the date of dispatch and departure in a particular month for export and import containers respectively. For instance, all export containers dispatched and import containers that departed from ICD Tughlakabad in the month of January 2018 have been analysed for the month of January. These container may or may not have arrival date and time in the same month i.e. January.
- Any inconsistent outliers in the datasets have not been considered for calculation.

Customs

- The monthly datasets were segregated on the basis of Out of Charge (OOC) date in case of imports and Let Export Order (LEO) date in case of exports. For instance, for the import dataset of January 2018, all the entries wherein the date of issuance of OOC is from 01-01-2018 to 31-01-2018 have been considered. Similarly, the dataset analysed for exports have all the entries for which the LEO issuance date is between 01-01-2018 and 31-01-2018.

CFS

- The monthly datasets were segregated on the basis of CFS gate out date in case of both imports and exports. For instance, the import and export datasets of January 2018 have all the entries wherein the CFS gate out date is from 01-01-2018 to 31-01-2018.

Rake Handling

- The monthly data has been segregated on the basis of the arrival date. All the entries having the arrival date in the month of January 2018 are used for analysis for the month of January

PGAs

- The monthly data has been segregated on the basis of the Application date. All the entries having the application date in the month of January 2018 have been analysed and presented in the report for the month of January.

1.5.Limitations of the Study

Despite having collected all data directly from the concerned stakeholders, there were certain unavoidable complications that affected the precision of the average time calculated. These include:

- Transit time calculation between port and CFS:* Due to unavailability of the relevant timestamps with all the CFS, the average transit time for Import and export was calculated on the basis of data provided by few CFS.
- Missing entries in datasets:* Many entries in the datasets analysed were missing or not recorded by the agencies. Missing or wrong entries for any process under any custodian have been removed, and the 'n' (number of entries) value has been adjusted accordingly.
- Incomplete entries:* In many datasets, only the dates were provided for certain processes. Absence of time stamps made these entries redundant, as the time difference between two activities taking place on the same date came out to be zero. For instance, let's assume an activity A took place on 01-01-2017 at 9:00 am and a subsequent activity B took place on the same date at 8:00 pm. The duration between these two activities is 11 hours, but in case of absence of time stamps, the duration comes out to be zero, which adversely affects the average. Further, in case of the dates being different, the time difference can potentially display a skew of up to 24 hours vis-à-vis the original difference, which again posed a limitation to the analysis.
- Gaps in Shipping Line Delivery Order data:* Data for shipping line delivery orders (SLDO) was provided by the CFS'. However, not all CFS' could provide the said information.
- Missing time stamps in OOC entries:* The Out of Charge (OOC) entries in the CFS datasets did not have time stamps. As such, time difference between seal cutting (which has both date and time) and OOC taking place on the same day came out to be negative. For instance, for a seal cutting entry of 01-03-2017 at 13:56:45 and a corresponding OOC entry of 01-03-2017 only, the time taken from seal cutting to OOC would be negative.
- Data errors:* For some agencies, data errors were recorded. For instance, in certain entries, the gate out time recorded preceded gate in time. Further, duplication of entries was observed in the some datasets. Such entries have been removed during calculation.

- g. *Calculation of DPD and DPE containers:* Calculations for both DPD and DPE categories have been done using the datasets provided by the terminals. The monthly datasets received from NSICT and NSIGT were segregated – as per mode of transport – into rail and road categories only. The containers with ‘rail’ as mode had to be taken as ICD and those with ‘truck’ as mode had to be taken as DPE (even though the category contains both CFS and factory stuffed containers). Further, in case of GTICT, the segregation – under group type – includes three categories: ‘CFS’, ‘Factory stuffed/ICD by road’ and ‘ICD by rail’, taken for analysis as containers originated from CFS, DPE containers and containers originated from ICD respectively. Therefore, here, ICD containers coming by road get included in DPE. In case of DPD, many containers, post clearance at the terminal, are moved to the designated CFS’ for warehousing, after a time period of 48 hours as stipulated by the customs. Their destination is recorded as ‘CFS’ instead of ‘DPD’ in the datasets provided by NSICT and NSIGT. Therefore, the actual share of DPD containers are higher as compared to the analysed figures represented in this report.
- h. *Unavailability of electronic data for PGAs:* During our field visits and our interactions with various stakeholders including PGA representatives, it was observed that the data (timestamps) for various activities related to clearance by PGAs are not maintained electronically by all the PGAs. The port offices of various PGAs maintain these entries manually and not all activities are recorded. Further, the entries recorded by the PGAs only contain date and no time for the commencement or completion of an activity leading to a statistical challenge where a difference of 24 hours becomes zero. In between submission of Bill of Entry and issuance of NOC by PGAs there are various activities that take place involving filing of application, scrutinising of documents, collection of samples, testing, report generation and issuance of NOC. In the absence of timestamps for all the relevant activities the clearance time for all PGAs could not be calculated.

Port Profiles

2. Port Profile

2.1. Jawaharlal Nehru Port

JNP located on the western coast is the biggest container port in the country. It handles about 56 percent of the container traffic in India through its four dedicated terminals, namely Jawaharlal Nehru Port Container Terminal (JNPCT), Gateway Terminals India Container Terminal (GTIPL), Nhava Sheva International Container Terminal (NSICT) and Nhava Sheva International Gateway Terminal (NSIGT). In addition, there is one liquid cargo berth and shallow water berth. Initially, the port was formed with the objective to reduce the traffic at Mumbai port but ever since its inception it has chronicled persistent increased performance and other achievements for India's foreign trade. The JNPT covers a land area of 2,987 hectares and has connectivity to hinterlands and the major business centres of the country through rail, road, etc.

Year-on-year Traffic:

Table 1: Container Traffic Handled at JNPT

2015-16	2016-17
4.49 million TEUs	4.50 million TEUs

Infrastructure:

Table 2: JNPT Port Infrastructure

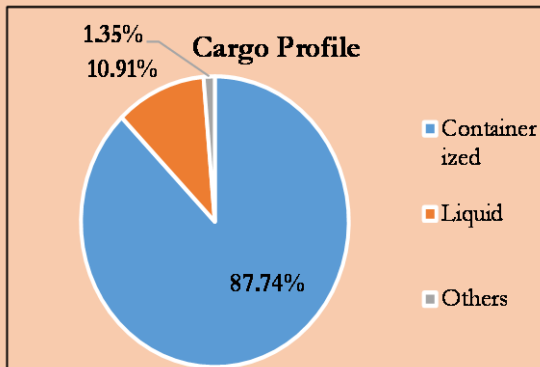
Berth	Draft (m)
12	14

Table 3: Container Capacity and Throughput at JNPT Terminals

Terminal	Capacity (TEU)	Throughput (TEU) (2016-17)
JNPCT	1,500,000	1,533,975
NSICT	800,000	445,111
NSIGT	800,000	445,111
GTICT	1,800,000	1,792,503
Total	49,00,000	42,16,700

Cargo Profile:

In the financial year 2016-17, JNPT handled a total of 62.15 MT cargoes. The break-up of these cargoes are as under:



Cargo Handling Equipment:

Table 4: Details of Cargo Handling Equipment's

Equipment	Number
RMQCs	34
RTGCs	99
RMGCs	11

Connectivity:

Table 6: JNPT Connectivity

CFS	Rail connected ICD
34 Active Container Freight Stations	9 siding tracks for 12 ICD

Storage:

Table 5: Storage Capacity at the Port

Particulars	Storage Capacity
Liquid Tank	750000 MT
Warehouse Area	1197260 TEU
Open Area Storage	875000 TEU

2.2.Chennai Port: Profile

Port of Chennai located on the eastern coast is among the oldest and major ports in India. Despite being the oldest port, it adopted continuous modernization and provided efficient and convenient services to withstand the competition from the existing and emerging ports. It is the first Indian port to establish the marine pollution management to ensure protection for marine life. The port covers a land area of 237.54 ha and has its own shunting yard and railway operations within the harbour. The connectivity of the port through rail, road and its container market makes it the most preferred choice in the southern region of the country.

Year-on-year Traffic:

Table 1: Container Traffic Handled at Port of Chennai

2015-16	2016-17
1.5 million TEUs	1.4 million TEUs

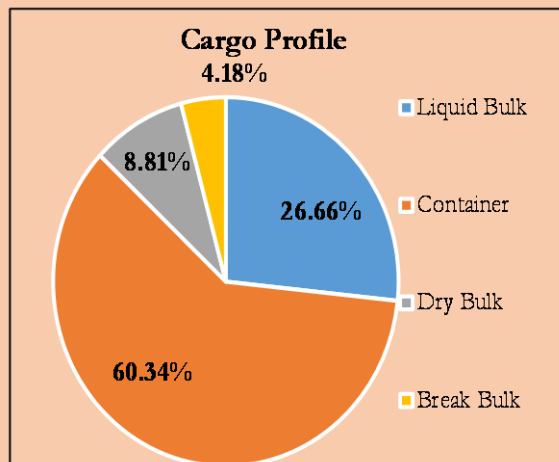
Infrastructure:

Table 2: Port Infrastructure

Berth	Draft (m)
12	14

Cargo Profile:

In the financial year 2015-16, Port of Chennai handled a total of 50.06 million tonnes of cargo:



Storage:

Table 5: Storage Capacity at the Port

Particulars	Storage Capacity
Container parking Yard	2,50,600 sq. mt
Warehouse Area	30,138 sq. mt
Open Space	3,84,611 sq. mt

Table 3: Container Capacity and Throughput at Port of Chennai

Terminal	Capacity TEU	Throughput TEU (2016-17)
Chennai Container Terminal	1,200,000	646,319
Chennai International Terminal	1,250,000	844,694
Total	24,50,000	14,91,013

Cargo Handling Equipment: (2015-16)

Table 4: Details of Cargo Handling Equipment's

Equipment	Number
Mobile Cranes	3
Diesel Fork Lift Truck	2
Wharf Electric Cranes	6
Diesel Electric Locomotive	10

Connectivity:

Table 6: Chennai Port Connectivity

CFS	Rail connected ICD
25 Active Container Freight Stations	2 siding tracks for 1 ICD

2.3.Mundra Port: Profile

Adani group's Mundra port is the largest commercial port in India, located on the north-western coast in the Gulf of Kutch. The strategically thought out location of the port and different transport facilities provides favourable connectivity to the northern hinterlands of the country. Mundra Port located in Gujarat and the flagship port of APSEZ, is already one of India's biggest port by volumes handled. It was the first Indian port to handle 100 million tonnes (mt) or more of cargo in a year, a feat it achieved in FY14. The port has facilities for handling, storage and evacuation of crude oil, containers, dry bulk, break bulk, automobiles and liquid cargo. The above-mentioned and mechanized facilities at the port make it a preferred port in the region.

Year-on-year Traffic:

Table 1: Container Traffic Handled at Mundra Port

2015-16	2016-17
3 Million TEUs	3.5 Million TEUs

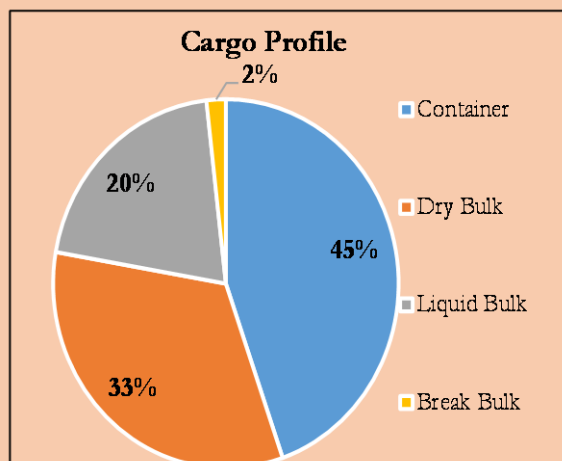
Infrastructure:

Table 2: Port Infrastructure

Berth	Draft (m)
24 berths	14 -18m

Cargo Profile:

In the financial year 2016-17, Mundra Port handled a total of 113.03 MMT of cargo



Storage:

Table 5: Storage Capacity at the Port

Particulars	Storage Capacity
Covered Area	2,03,687 sq. mt
Open yards	7,57,805sq. mt

Table 3: Container Capacity and Throughput at Mundra Port

Terminal	Capacity TEU	Throughput TEU (2016-17)
AMCT	1,000,000	860,000
AICT	1,750,000	1,160,000
ACCMT	800,000	276,630
MICT	1,100,000	1,163,055
Total	46,50,000	34,59,685

Cargo Handling Equipment: (2015-16)

Table 4: Details of Cargo Handling Equipment

Equipment	Number
Mobile Harbor Cranes	16
Goliath cranes	8
Reach Stacker	1
Quay Cranes	16
Rubber Tyre Gantry Cranes	50

Connectivity:

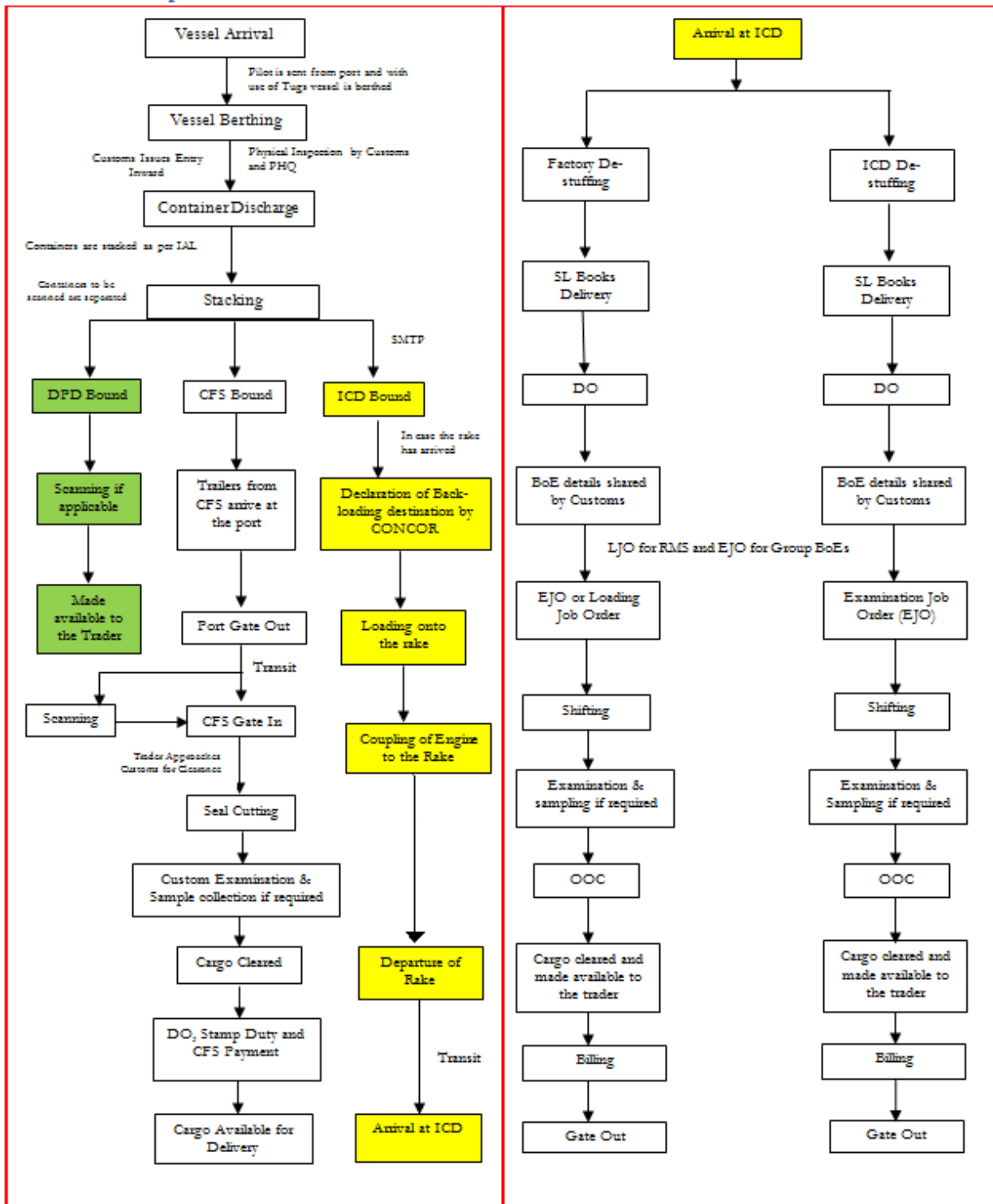
Table 6: Mundra Port Connectivity

CFS	Rail connected ICD
13 Active Container Freight Stations	11 siding tracks for 30ICDs

EXIM

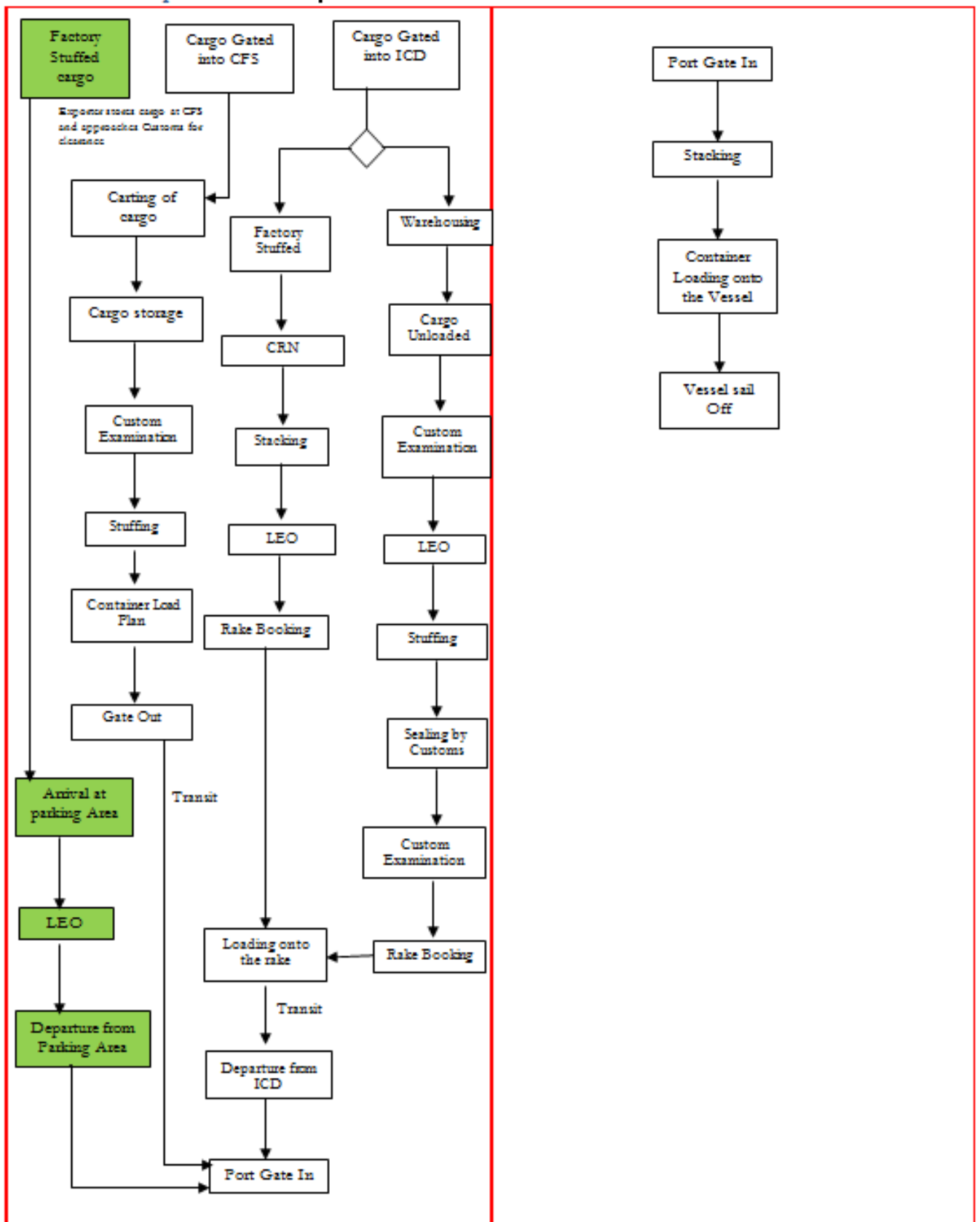
PROCESS

3. Import Process at Port, ICD and CFS



S.L – Shipping Line; VOA- Vessel operating Agent; IGM- Import General Manifest; IAL- Import Advance List; SMTTP-Sub Manifest Transshipment Permit; OOC- Out of Charge; NOC-No Objection Certificate; PGA-Partner Government Agency

4. Export Process at Port, ICD and CFS



5. Comparison of Port Processes

Parameter	JNP	Chennai	Mundra
Different entry and exit points at Ports.	The terminal gate and port gate is the same in case of the JNP. During the dwell time calculation of the road bound cargo, time calculation starts from the entry or exit from these gates.	The terminal gate and port gate is not the same in case of Mundra and Chennai port. Terminal gates – usually container yard gates- are inside the port. The terminal records gate out or gate in when the container crosses the terminal gates.	
Presence of Customs personnel at the port gate.	There is no customs personnel stationed at the gates at the JNP. For exports, the customs personnel have been shifted to the holding/parking yard where customs procedures are carried out.	At Chennai and Mundra ports, Customs personnel have been stationed at the port gate. Further, at Chennai port the customs personnel checks all the documents at the port gate thereby leading to escalation of dwell time. The time taken at the port gate in case of Mundra and Chennai is not reflected in the port dwell time figures mentioned in this report owing to the reason mentioned above.	
Free days at the terminal for the road and rail bound EXIM containers.	The terminals at Chennai port and the JNP provides a free period of 72 hours (3 days) for Road bound containers and 168 hours (7 days) for rail bound containers.		At Mundra the terminals provide 3 calendar days (not 2 hours) free period for the road bound containers and 10 calendar days for rail bound. If a container is discharged at 01:00 hrs or 23:00 hrs on 01-01-2018, the free period will be till midnight 03-01-2018.
Different procedure for evacuation of rail bound containers from the port.	The railway lines are within the terminal area. The containers transported through rail are loaded and unloaded from the rake within the terminal. The departure of rake is considered as port out and arrival of rake as port in at the JNP.	In case of Chennai port, there is a separate railway yard outside the terminal gates, operated by CONCOR. The containers transported through rail leave the terminal gate to be shifted to the yard where they are loaded onto the rakes.	Same as the JNP
Entry of Export cargo into the port after customs clearance.	The export containers enter the JNP ad Chennai port only after they are cleared by customs.		At Mundra port the containers are allowed inside the terminal without custom clearance. Therefore, the time the containers spend at the terminals also includes the time for custom clearance, which may result in a higher dwell time for export containers for Mundra compared to the JNP and Chennai port.

TIMELINE ANALYSIS

SNAPSHOT

IMPORT TIMELINES

Stakeholder	Dwell Time	JNP	MUNDRA	CHENNAI	TKD
PORT	Port Dwell Time	73:06	101:16	45:41	107:51
	Port Dwell Time for CFS Bound Containers	62:46	50:37	37:00	--
	Port Dwell Time for ICD Bound Containers	99:36	156:15	63:06	--
	Port Dwell Time for DPD Containers	75:35	91:59	53:08	--
Customs	Customs Release Time	37:56	33:25	31:57	21:39
CFS	Dwell Time at CFS	123:56	109:53	72:44	--
Port, CONCOR & Railway	Rake Turnaround Time	11:55	12:46	18:51	--
	Rake Handling Time	5:23	9:07	6:22	--

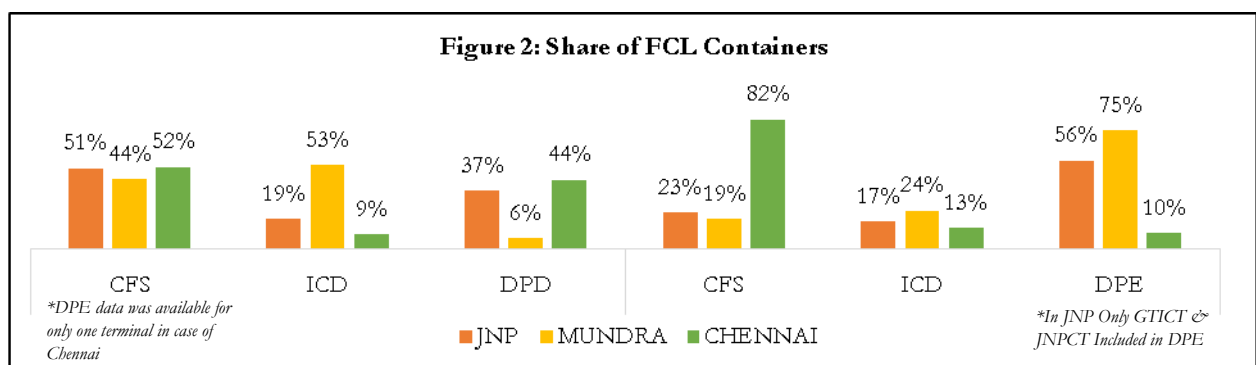
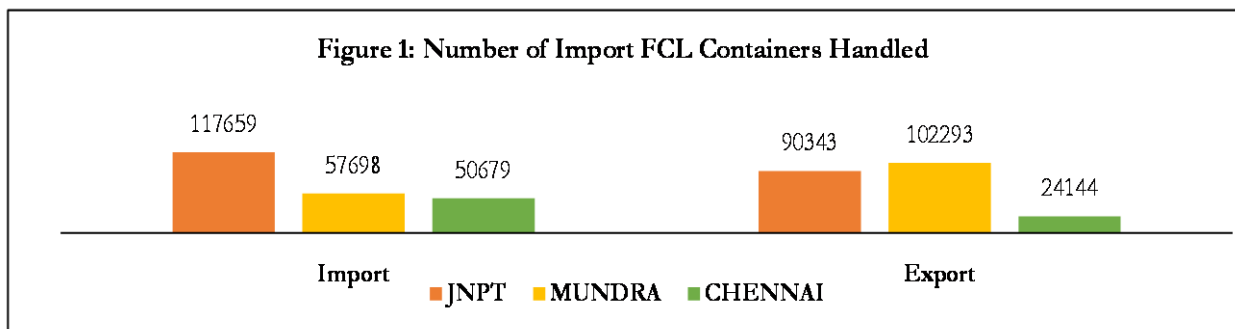
EXPORT TIMELINES

Stakeholder	Dwell Time	JNP	MUNDRA	CHENNAI	TKD
PORT	Port Dwell Time	72:13	94:57	65:57	86:03
	Port Dwell Time Containers Originated from CFS	66:10	68:32	65:24	--
	Port Dwell Time Containers Originated from ICD	107:47	102:15	53:52	--
	Port Dwell Time for DPE Containers	64:48	100:31	49:31	--
Customs	Customs Release Time	4:14	6:43	5:08	10:19
CFS	Dwell Time at CFS	131:33	218:11	--	--

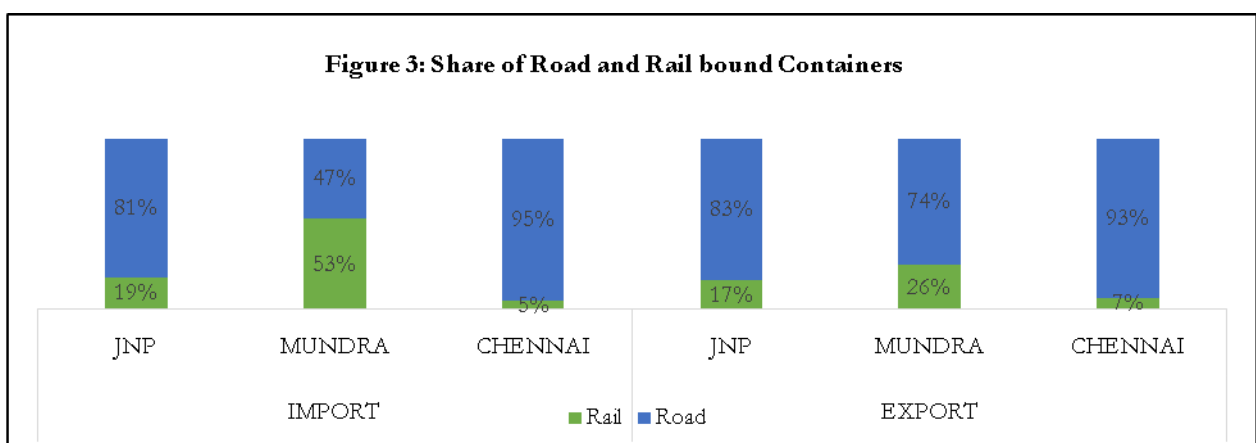
6. Timeline Analysis

6.1.FCL Volume Handled by the Ports

The EXIM volume of FCL containers handled at the select ports has been provided in the chart below. The stats given in the figure 1, should not be confused with the total number of containers handled at the ports, which would be a higher figure than the one mentioned in the graph. The total volume of containers handled at a port also include empties, transshipment containers and containers meant for SEZ around the port.

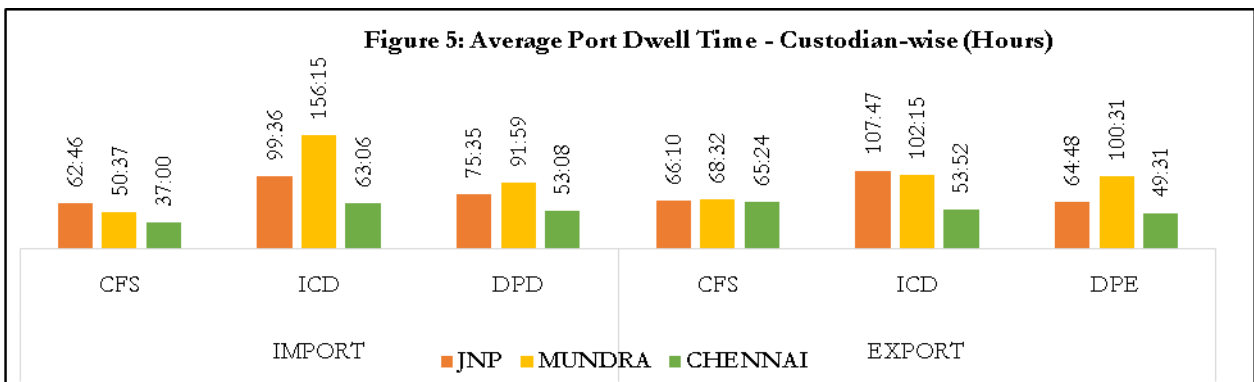
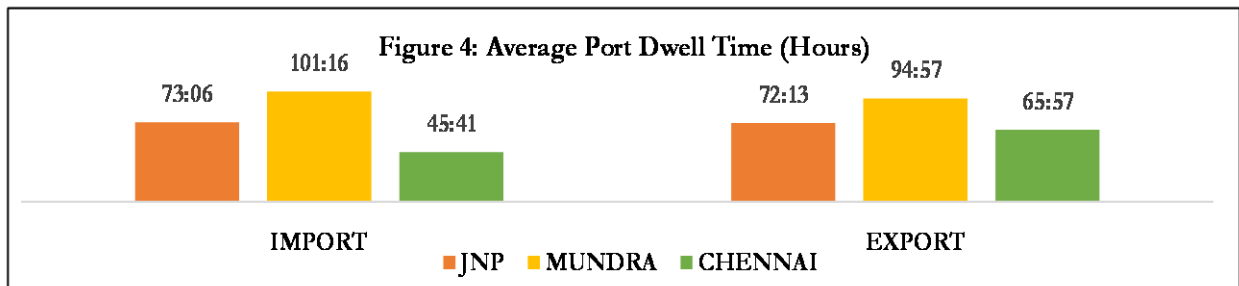


The DPD percentage has been calculated from the FCL containers excluding the ones going to ICDs. For example, if 100 containers are imported at a port out of which 20 containers are going to ICDs, the share of DPD would be calculated from the remaining 80 containers. This has been done considering the fact that the DPD facility is presently available only to the non-ICD bound containers. Further, the DPD percentage at Chennai has seen a sharp increase in the month of May-18, owing to an updated DPD segregation in the data sets provided by terminals which includes ACP, DPD/DPD and DPD/CFS containers.

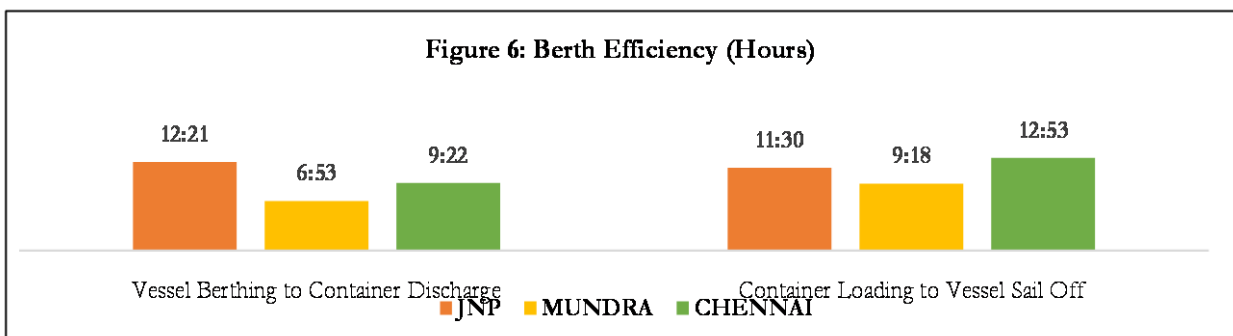


6.2.Port Dwell Time

Port or Terminal dwell time is the calculation of the time a container is at the terminal. It is calculated as the average time taken from container discharge from the vessel to the time of container evacuation from port gate for import and time from the entry of container into the port till it is loaded onto the vessel for export. In case of Mundra, for import, the out time has been taken as gate out from the container yard at the terminal. Terminal dwell time varies with respect to the destination or source of the container – Container Freight Station (CFS), Inland Container Depot (ICD) or Direct Delivery (DPD or DPE).



CFS operators have to obtain and submit hard copies of documents to take the delivery at Chennai port unlike the JNP and Mundra leading to a high dwell time. The port dwell time for ICD bound containers at Chennai port is considerably low compared to other two ports. One of the reasons for this metric is that the gate out for ICD bound containers at Chennai port is recorded when the containers move out of the terminal to be shifted to a separate Railway yard operated by CONCOR. The time spent at the railway yard till the departure of the rakes is not captured by terminals at the Chennai port.



Before the containers are discharged from the vessel, the customs, immigration and PHQ officials inspect the ship. Operational factors such as the number of quay crane moves along with external

factors such as the tide situation, vessel size, time taken for customs processes, etc. determine this metric. Similarly, post loading of containers during export process, the vessel has to be moved off the berth for sail off. This process is dependent on external factors such as favourable tide, etc. These two processes are representative of the berth efficiency at the select ports.

6.3. Transit Time - Import

Transit time is the time taken for the container to reach the custodian - which can either be a CFS or an ICD. The rail transit time for ICD has been calculated as the difference between the time of departure of rail from the source location to its arrival at the destination. The CFS transit time is taken from the time of exit of a container from port to its arrival (gate-in) at the CFS. The transit time through road for JNP, Chennai and Mundra has been calculated using data provided by 11, 3 and 1 CFSs respectively.

Table 3: Transit Time of Import Containers					
	JNP		Mundra		Chennai
	Road	Rail	Road	Rail	Road
Average time taken (hr)	8:45:28	78:07:15	0:28:48	98:06:37	1:50:12

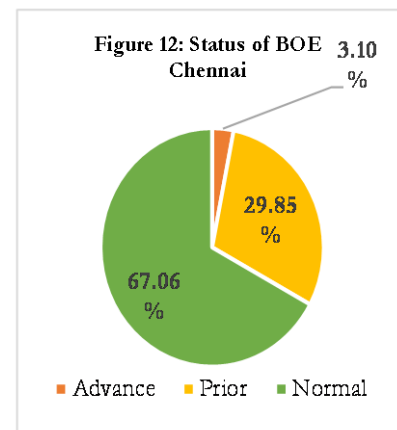
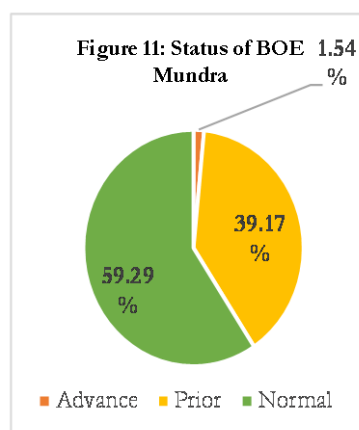
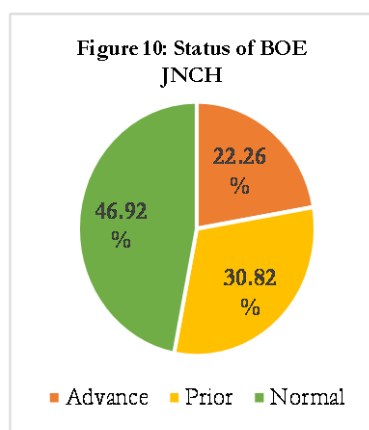
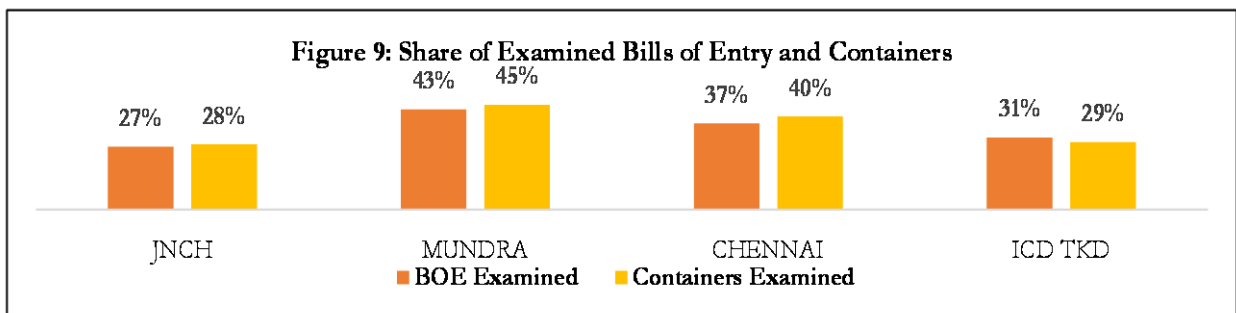
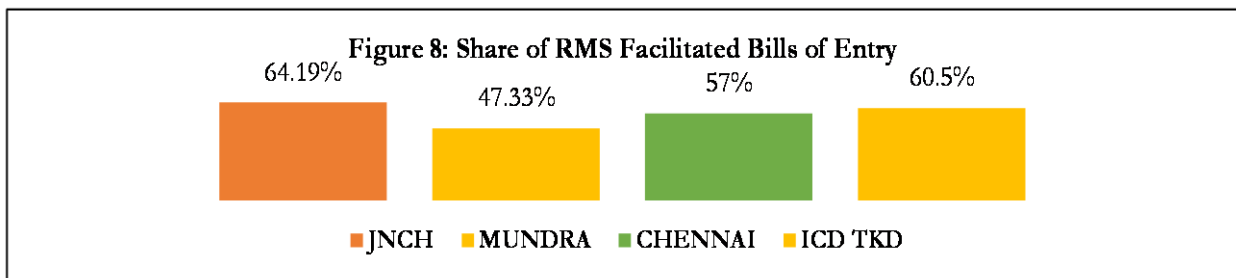
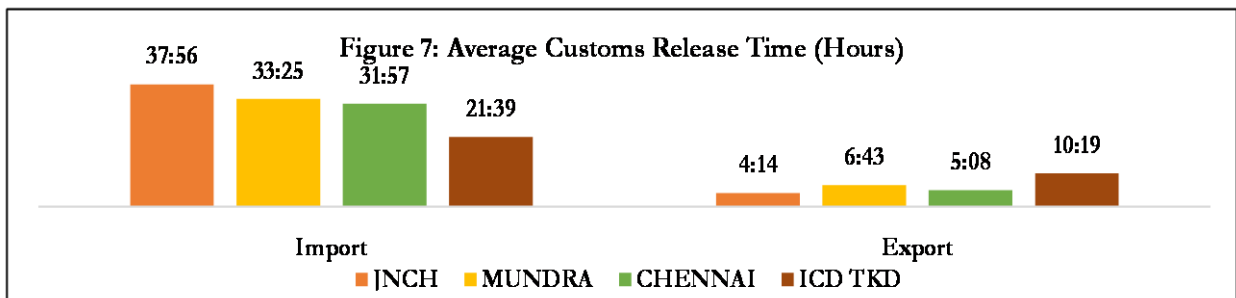
6.4. Transit Time – Export

Transit time for CFS and ICD has been calculated as the time taken from departure of containers from ICD or CFS to their arrival at the port. The transit time through road for JNP has been calculated using data provided by 4 CFS.

Table 4: Transit Time of Export Containers				
	JNP		Mundra	Chennai
	Road	Rail	Rail	Road
Average time taken (hr)	13:19:32	66:45:31	87:00:23	NA

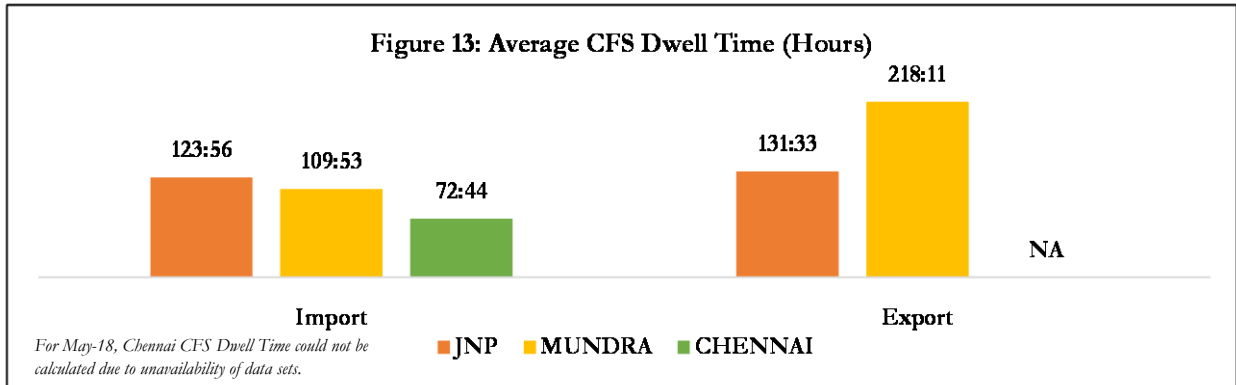
6.5. Customs Release Time

Customs release time is the time taken by the customs authorities, be it at the dock, at CFS or at ICD. In case of imports, the customs release time is calculated as the average time between submission of bill of entry to assessment and registration of goods to OOC [in case of RMS and Group B/E]; and registration of a container to assessment and duty payment to OOC [in case of Group (First Check) B/E]. It must be noted that the process of customs release is not linear; many agencies play a parallel role such as the PGAs, the importer/customs broker for duty payment, shipping line for delivery order and the CFS. In case of exports the release time is the duration between registration of goods and issuance of LEO.



6.6.Container Freight Station (CFS)

CFS import dwell time is calculated from the time of gate-in of a container at the CFS to its custom clearance which is issuance of Out of Charge (OOC) by customs in case of imports. For exports, dwell time is calculated from the issuance of export carting order to the gate-out of container from CFS. Please note that the total time taken by CFS is calculated in terms of gate-in to OOC (and not as a linear addition of time taken in the various processes) due to the sample size being different for each process and many parallel processes involving customs, customs brokers and shipping line taking place. The list of CFS along with their dwell time has been provided in the annexure.



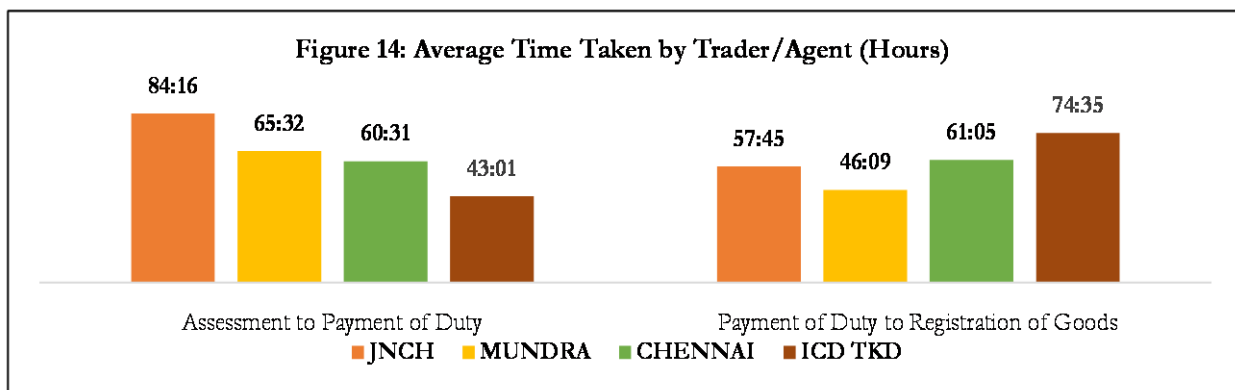
6.7.Inland Container Depot (ICD) Tughlakabad

The overall dwell time of containers at ICD Tughlakabad has been computed as the weighted average of overall dwell time figures for all the different categories under analysis viz. green channel factory de-stuffed/stuffed containers, non-green channel factory de-stuffed/stuffed containers, warehouse bound containers and direct de-stuffing/stuffed containers.

Table 5: ICD Tughlakabad Dwell Time	
ICD Time Import (Arrival – OOC)	107:51:56
ICD Time Export (Arrival – Dispatch)	86:03:22

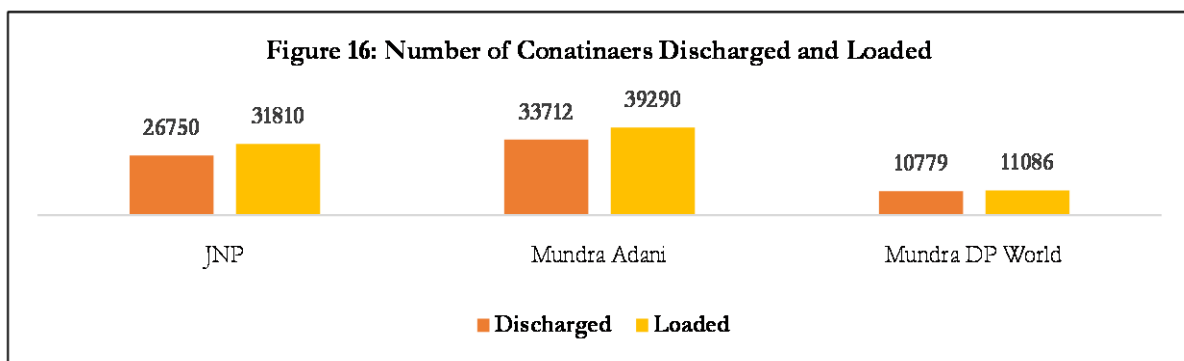
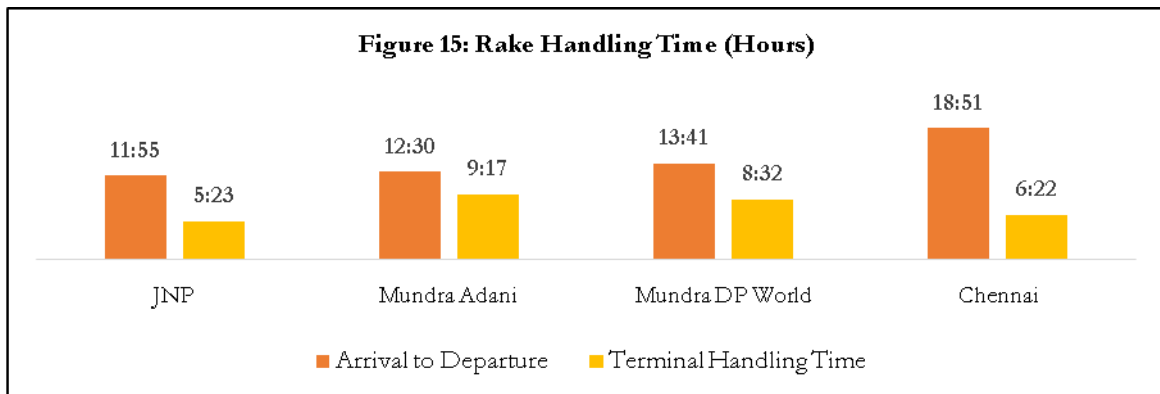
6.8. Time Taken by the Trade – Importers/Customs Brokers

It is imperative for time-to-release studies to take into account the time taken by the importers or their customs brokers for completing various procedures like payment of duty and registration of goods with the customs. These procedures substantially add to the custodian release time and the need for factoring in such parameters – to arrive at a clearer view of the role of and time taken by the custodians as well as the trade – is paramount. In a number of cases, delays in payment of duty by the importers or in the clearance process occur due to reasons such as: a) paucity of funds for clearances – as a result of which the cargo remains in the customs bonded area within the CFS/ICD and b) market evaluation by the traders before releasing goods from the custodian. For ease of doing business, it is important that the importer completes the necessary payments and formalities on time to ensure timely completion of rest of the procedures.



6.9.Rake Handling

The turnaround time of rakes at the terminals is the time taken from arrival of rake to its departure from the terminal. The processes that take place during this period include discharge of export containers or empty containers, loading of import containers, submission of rake removal memo and coupling of engine. The time taken by the terminal to unload the export cargo and load the import cargo is called the Rake Handling Time. The turnaround time and the rake handling time at the JNP, Chennai and Mundra port is depicted in Figure 14.



6.10. Shipping Line Delivery order

The shipping line provides delivery order (DO) as a final confirmation for delivery of cargo to the customs broker. Any delay by the shipping line in providing delivery order gets added to the total time of the container at CFS/ICD. Some DOs are given after issue of OOC by customs, while others are generated at the same time or prior to OOC, Table 6.

Table 6: Average Time Taken for Generation of Delivery Orders by Shipping Lines			
	JNP	Mundra	Chennai
Total no. of DO	17212	602	5301
No. of DOs prior to OOC	8189	288	967
No. of DOs given post OOC	5669	143	3121
No. of DOs received on same day as OOC	3354	171	1213
Average time taken from CFS gate-in to receiving delivery order	155:24:02	92:22:00	153:30:38

6.11. Partner Government Agencies

Partner government agencies (PGAs) are the allied agencies that are required to examine and provide clearance to certain types/categories of cargo. They play a key role in the overall process of cargo clearance. In an earlier practise, the time required by these agencies was added in the customs release time, however, some cargo (particularly perishable) is now released before the arrival of report by PGAs on the basis of a bond guarantee. This report analyses the time taken from sample collection to publishing of report by 2 PGAs -Animal Quarantine (AQ) for Mundra and JNP region and Food Safety and Standards Authority of India (FSSAI) for JNP. Please note that the reports for some agencies like PQ and FSSAI may also be received after out-of-charge due to nature of the cargo.

Table 7: Average Time Taken by PGAs		
	AQCS (JNP)	AQCS (Mundra)
Total number of entries (n)	482	185
Average Time taken from Application to NOC for all BoEs (hr)	90:46:38	19:06:50
Total number of BoEs	482	184
BOEs for which sample was collected	185	23
Average Time taken from Application to NOC for sample collected BoEs	339:23:38	380:00:00
BoEs for which provisional NOC was issued	189	22
BoEs for which Provisional NOC was issued on the day of application	461	20

In case of FSSAI, the release time has been calculated as the summation of time taken by the FSSAI at various stages of the overall clearance process. The release in case of cargo where sample was collected is the time is a summation of the average time between filing of application by the trader to the time when the officer at the FSSAI scrutinises the documents, payment of dues to collection of sample, sample collection to the issuance of the NOC. In case of cargo where no sample has been

drawn, the release time is the summation of the duration between filing of application and issuance of NOC.

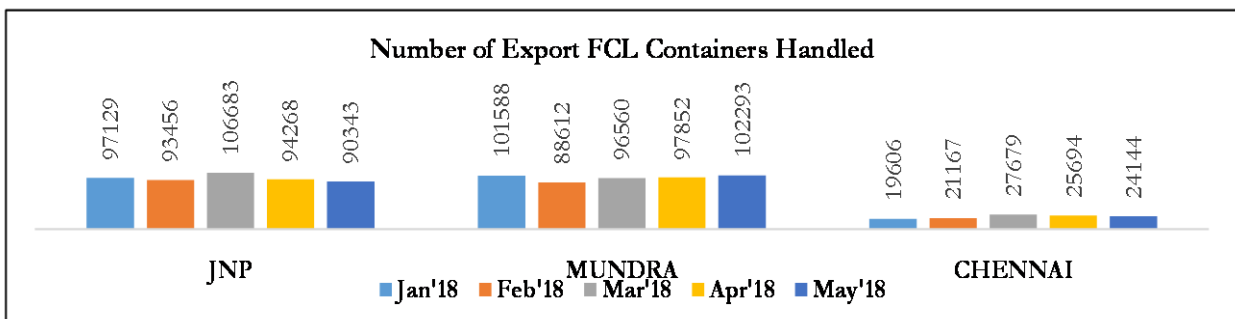
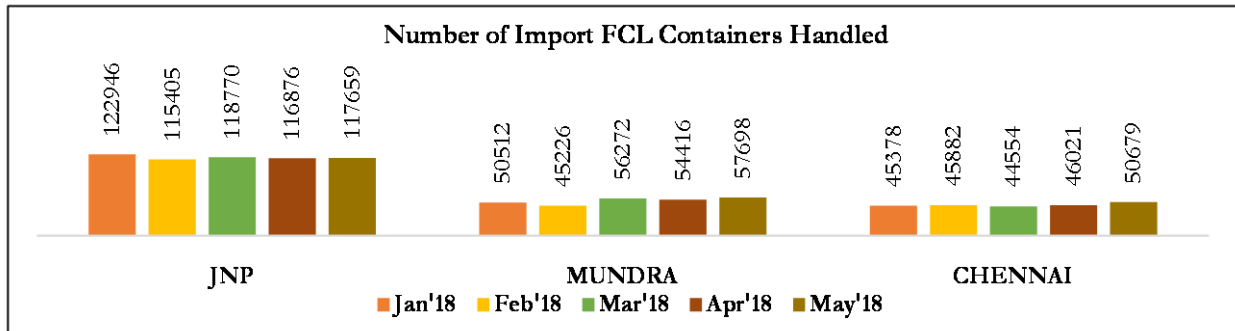
Table 8:FSSAI Release Time (Chennai)			
	Sample	Non- Sample	Not in Scope
Total number of entries (n)	1112	127	165
Total number of BoEs	901	115	71
Average FSSAI Release time (hr)	143:20:51	24:13:42	77:00:00

Table 9:FSSAI Release Time (JNP)			
	Sample	Non- Sample	Not in Scope
Total number of entries (n)	3497	268	147
Total number of BoEs	2508	196	95
Average FSSAI Release time (hr)	197:57:09	46:03:13	119:45:14

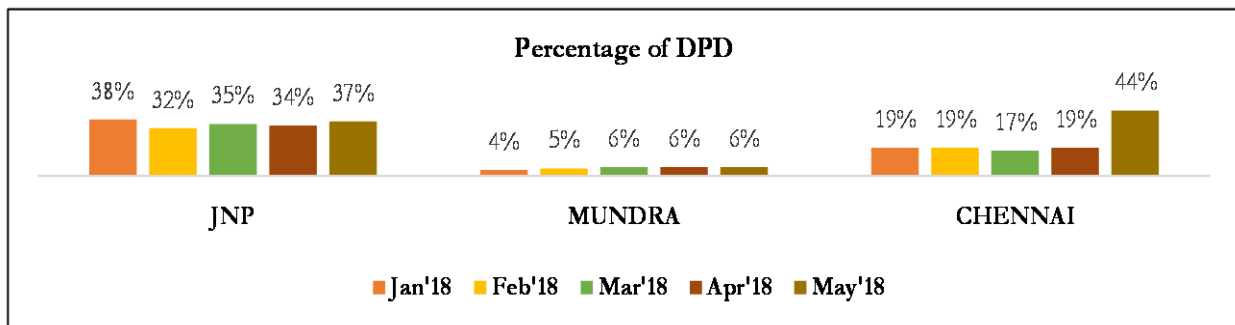
The product wise release time for the FSSAI JNP has been provided in the annexure.

Trend Analysis

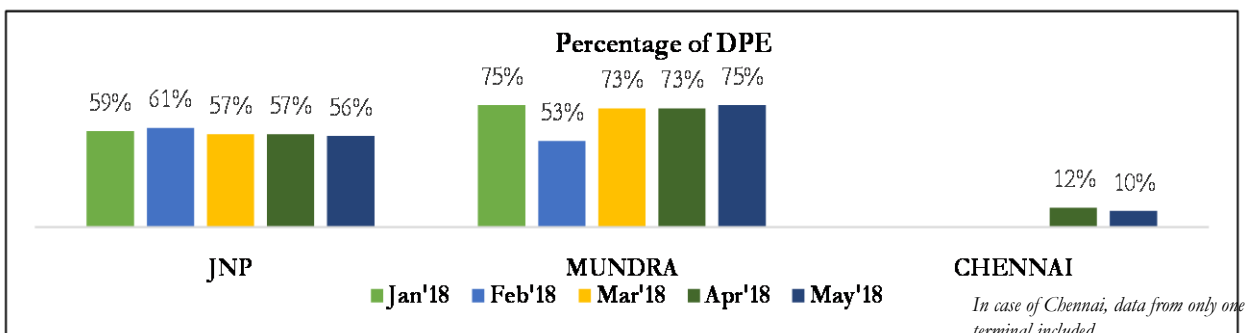
Volume of EXIM Cargo Handled



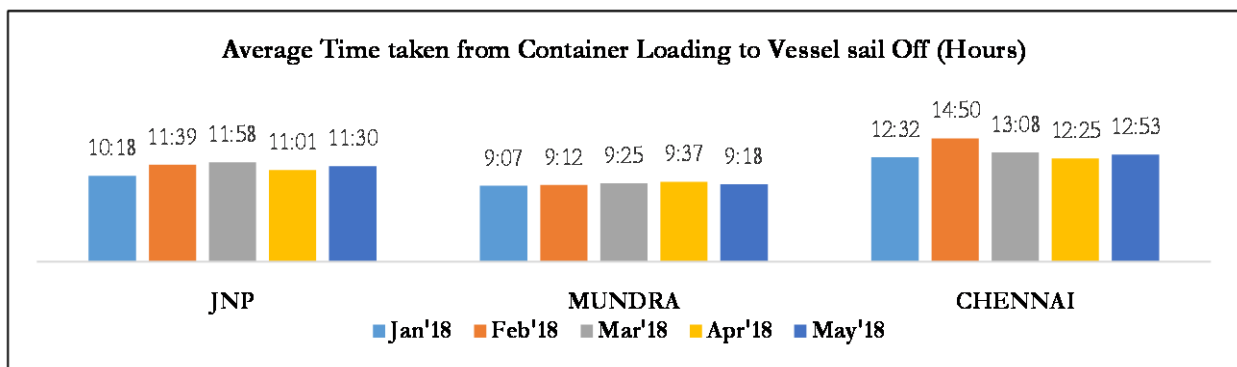
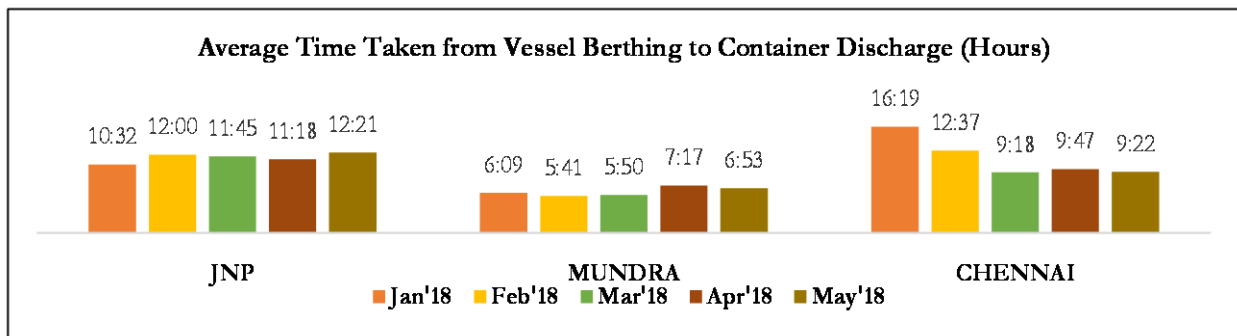
Share of DPD



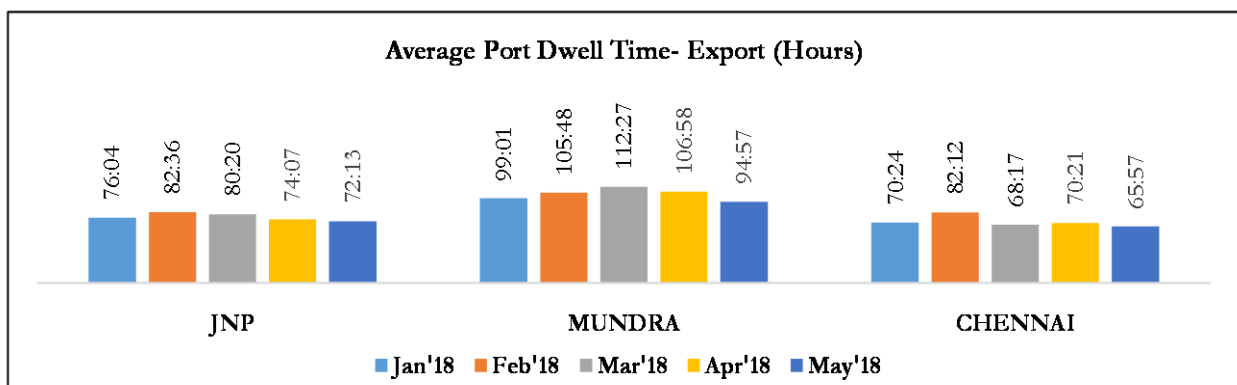
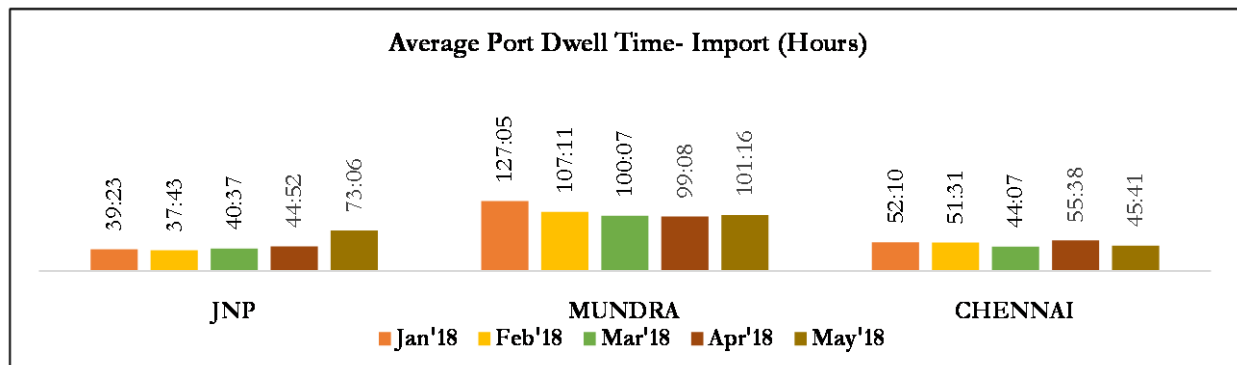
Share of DPE



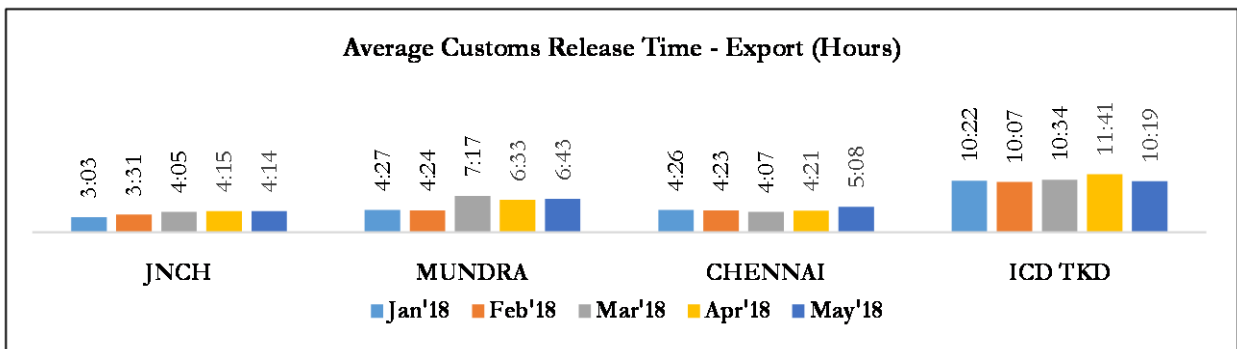
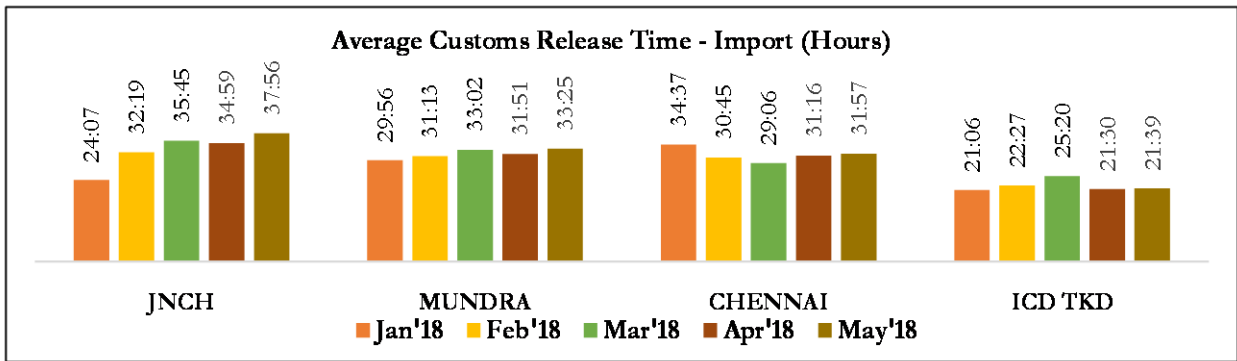
Berth Efficiency



Port Dwell Time

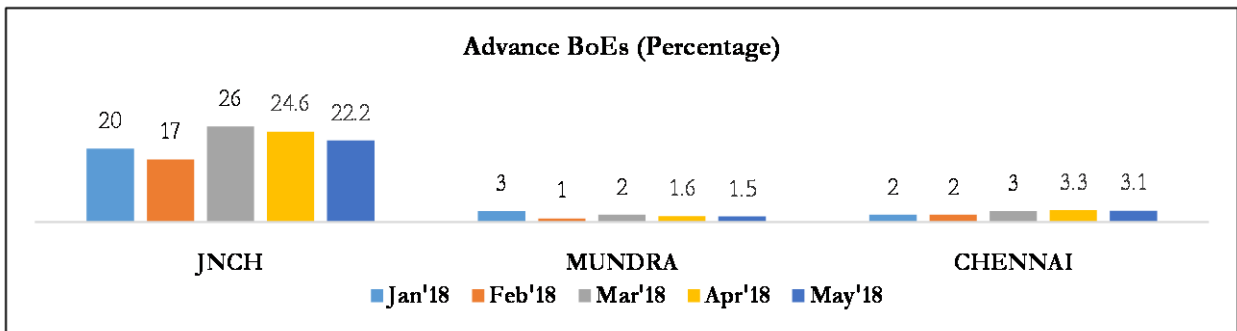


Customs Release Time

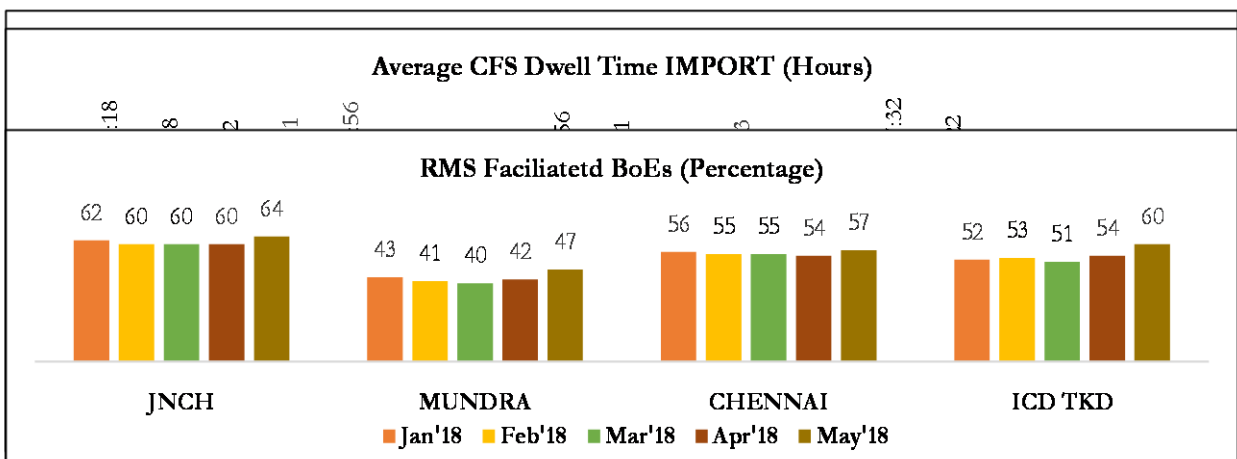


Share of RMS facilitated BoEs

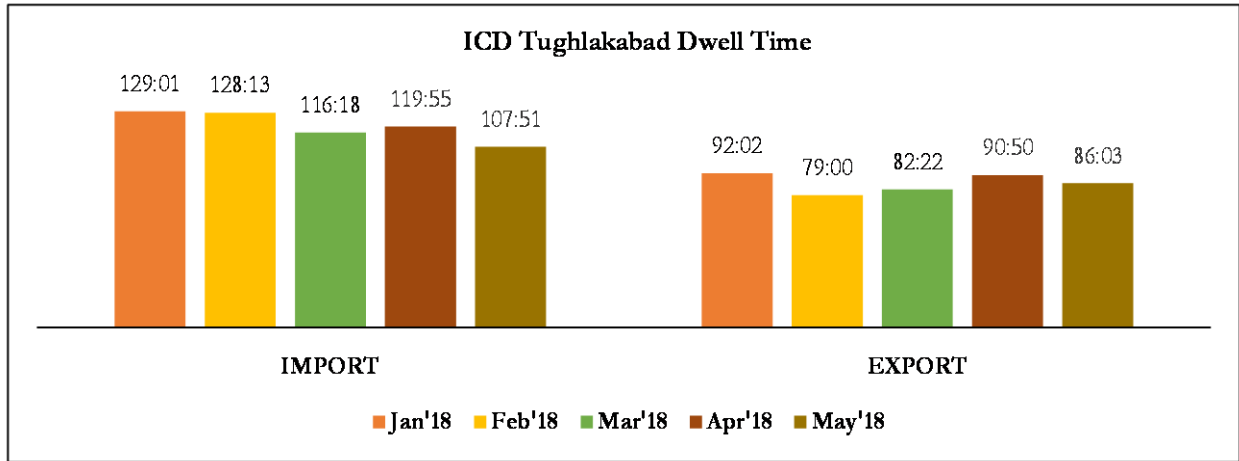
Share of Advance BoE



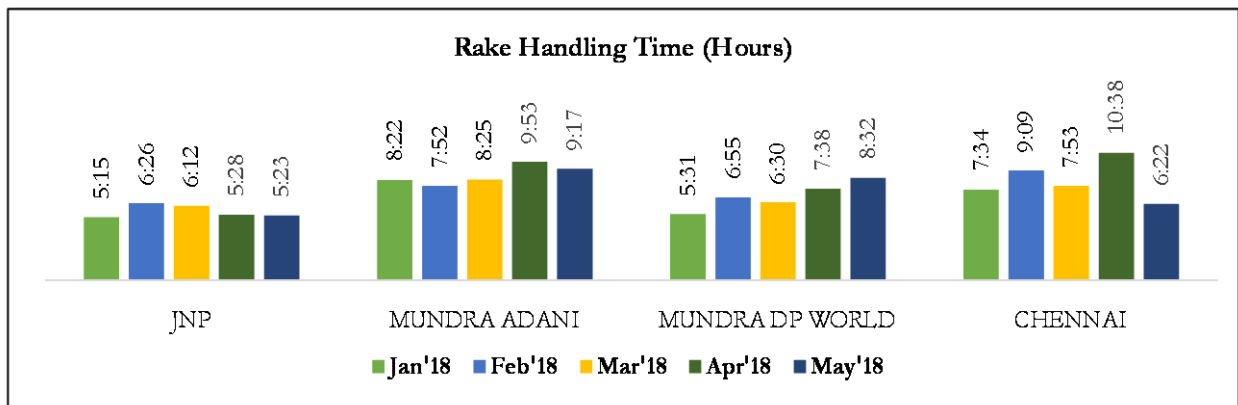
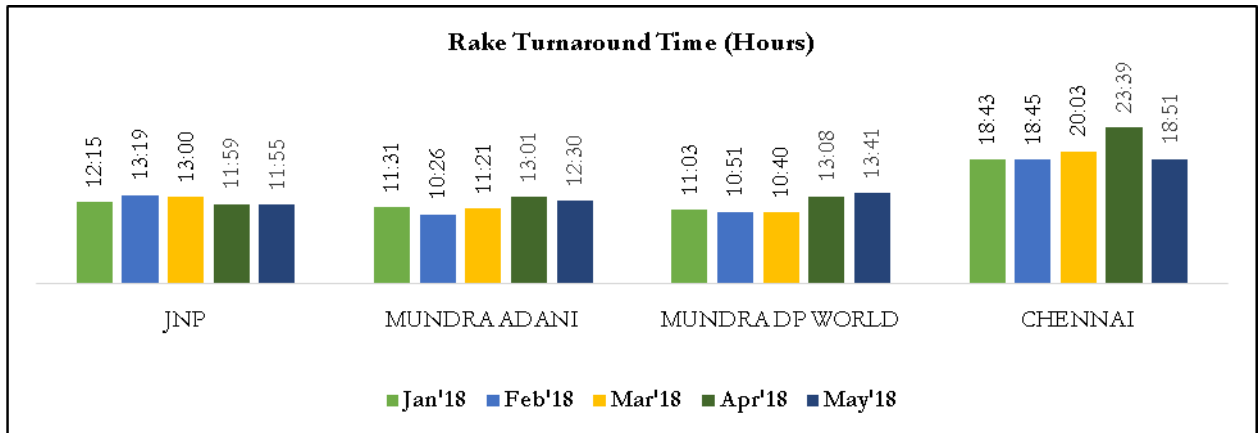
CFS Dwell Time



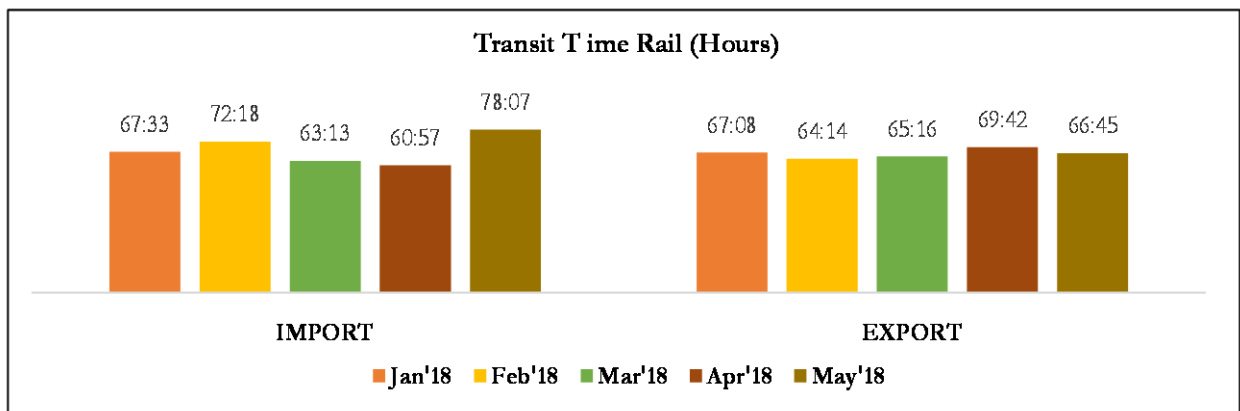
ICD TKD Dwell Time



Rake Handling



JNP-TKD Rail Transit Time



Annexure-I

Time Taken from Vessel Arrival to Vessel Berthing

Terminal	Time- Hours
JNPCT	18:03:21

Timelines for the Import of Auto-components from South Korea and Export of Electrical Machinery to US

Import Timeline of Auto components from South Korea	
Parameter	Value
Number of BoEs	135
Number of Containers	10041
RMS Facilitated BoEs	96 (71.1%)
Import Dwell Time (Entry Inward to OOC)	226:28:31
Customs Release Time	66:35:08

Export Timeline of Electrical Machinery to US	
Particulars	Value
Number of SBs	438
Number of Containers	2282
Customs Release Time	5:28:23

Number of Containers Handled by Ports EXIM

Number of FCL Containers Terminal-wise			
Port	Terminal	Export	Import
JNP	JNPCT	19470	37164
	GTICT	35163	53740
	NSICT	14940	8997
	NSIGT	20770	17758
Chennai	CCTL	11703	18649
	CITPL	12441	32030
Mundra	ACMTPL	13198	5843
	AICTPL	33584	21784
	AMCT	28697	16145
	MICT	26814	13926
Total		216780	226036

Port Dwell Time Terminal-wise- Import

Terminal Wise Activities (Imports)					
Port	Terminal	Vessel Berthing to Container Discharge		Container Discharge to Port Out	
		N	Avg.	N	Avg.
JNP	JNPCT	37057	17:36:15	36848	80:59:16
	GTICT	53740	10:30:37	48953	61:58:19
	NSICT	8997	5:25:44	8997	78:40:02
	NSIGT	17758	10:29:08	17758	84:39:09
Chennai	CCTL	18648	9:11:57	18649	42:58:20
	CITPL	32030	9:28:05	32030	47:15:53
Mundra	ACMTPL	5843	7:15:53	5098	82:35:15
	AICTPL	21784	8:05:27	16950	122:25:09
	AMCT	16145	5:58:34	14545	81:07:55
	MICT	13926	5:53:52	13571	103:26:43

Port Dwell Time Terminal-wise- Export

Terminal Wise Activities (Exports)					
Port	Terminal	Container In to Container Loading		Container Loading to Vessel Sail Off	
		N	Avg.	N	Avg.
JNP	JNPCT	19470	83:22:43	19064	17:47:45
	GTICT	35162	67:34:42	35163	9:46:45
	NSICT	14940	71:10:32	14790	8:50:52
	NSIGT	19048	70:15:25	19046	10:28:27
Chennai	CCTL	11703	75:27:22	11283	13:51:37
	CITPL	12441	51:40:56	12441	11:57:22
Mundra	ACMTPL	13198	95:30:21	13198	9:22:56
	AICTPL	33584	91:18:04	33584	11:54:37
	AMCT	28697	97:38:49	28697	7:42:19
	MICT	26814	96:22:34	26814	7:41:50

Port	CFS	Entries	N	ECO to STUFF	N	STUFF to MO	N	ECO to GO
JNP	Ameya	463	445	112:32:23	463	40:16:52	443	150:20:16
	Apollo	2114	1901	111:16:55	1978	30:42:34	2034	179:57:17
	Balmer Lawrie	264	NA	NA	264	0:00:00	NA	NA
	Continental	1131	1060	134:59:29	1127	32:22:11	1056	173:46:13
	ICTPL	363	255	103:39:41	263	3:29:00	249	147:11:41
	JWC	3285	NA	NA	1972	30:13:14	NA	NA
	JWR Logistics	4646	NA	NA	4613	7:55:22	NA	NA
	MICT	1306	NA	NA	1303	33:16:52	NA	NA
	Oceangate	773	741	110:37:02	432	57:24:56	732	159:27:35
	Seabird Marine	649	NA	NA	558	37:45:17	NA	NA
	Ashte Exports	744	NA	NA	743	7:31:34	NA	NA
	EFC Logistics	183	183	70:23:46	178	38:00:03	183	110:48:24
	GDL -Exports	6708	6693	99:30:12	6683	22:38:33	6688	133:49:23
	Kerry Indev Exports	491	491	0:00:00	65	12:04:08	491	10:17:03
	Navkar-1-2-3 Exports	5072	4927	84:39:39	3462	48:34:17	4935	137:41:12
	Punjab Conware Exports	14834	14783	89:33:05	14824	25:38:53	14767	123:50:37
	Vaishno Logistics	852	NA	NA	849	45:32:00	NA	NA
Take Care Logistics	1877	1877	93:25:04	1072	33:49:43	1877	113:18:05	
	Hind Terminals	4037	4010	91:19:29	4034	28:00:10	4003	129:11:00
Chennai	CWCNSL (M)	55	NA	NA	55	0:00:00	NA	NA
	CWCNSL (R)	2732	2732	21:03:57	2732	0:00:32	2732	21:23:27
	GDL	1385	NA	NA	718	1:46:18	NA	NA
Mundra	Mundra CFS	3034	2828	211:05:17	1828	24:56:00	2810	234:21:35
	Allcargo logistics	1532	1472	148:21:03	1528	31:15:10	1463	187:09:31

CFS Process Timelines - Export

ICD Process Timelines- Import

ICD Cumulative (Import)								
Number of Containers	N	GC-FAC	N	Non-GC-FAC	N	Warehouse	N	Direct
Arrival to EJO			1125	74:53:44	88	59:10:10	180	102:39:31
EJO to DJO					114	58:04:55		
DJO to De-stuffing					105	2:46:29		
EJO to OOC			1127	61:55:02			181	54:03:38
De-stuffing to OOC					82	150:38:07		
OOO to DJO							162	34:32:20
OOO to Gate pass	1907	27:06:17	1091	10:58:21	62	37:22:23		
DJO to Gate Pass							181	2:56:00
Gate Pass to Departure	2012	21:00:10	1129	12:30:02	114	2:03:59	184	4:05:14
Arrival to OOC	2003	84:10:38	1119	132:40:43	110	206:34:53	180	156:53:03
Arrival to Departure	1993	126:49:02	1116	152:59:58	110	228:51:02	177	184:28:57

ICD Process Timelines- Export

ICD Cumulative (Export)						
Number of Containers	N	GC-FAC	N	Warehouse	N	Direct
Arrival to CRN	481	26:24:32				
Arrival to LEO			320	38:49:08	6	5:31:45
CRN to LEO	481	15:26:44				
LEO to Loading	481	20:13:07				
LEO to Stuffing			320	28:45:52	6	1:15:47
Stuffing to Sealing			307	11:26:27	6	0:52:01
Sealing to Loading			320	39:23:35	6	60:13:48
Loading to Dispatch	465	1:43:42	305	2:09:26	6	1:28:21
Arrival to Dispatch	481	63:44:22	320	119:54:49	6	69:21:42

PGA

AQCS Process-wise												
Agency	N	BoE	N	BoE to APP	N	APP to SMP	N	SMP to RPT	N	RPT to NOC	N	APP to NOC
AQCS JNP	482	482	465	186:03:52	180	3:44:00	97	318:11:08	101	19:57:37	386	90:46:38
AQCS Mundra	185	184	183	157:54:06	20	7:12:00	6	380:00:00	6	0:00:00	167	19:06:50

FSSAI Process-wise (Chennai)						
Process	Sample		Non-Sample		Not in Scope	
	N	Avg. Time	N	Avg. Time	N	Avg. Time
BoE to Application	1084	82:22:21	127	63:03:49	145	157:12:41
Application to Scrutiny	1112	29:06:14	127	18:02:05	165	74:54:19
Scrutiny to NOC			127	6:11:38	165	2:05:41
Scrutiny to Payment	1112	24:06:26				
Payment to Sample	374	39:20:11				
Sample to NOC	1111	74:54:26				
Application to NOC			127	24:13:42	165	77:00:00
Total Time	1112	143:20:51	127	24:13:42	165	77:00:00

FSSAI Process-wise (JNP)						
Process	Sample		Non-Sample		Not in Scope	
	N	Avg. Time	N	Avg. Time	N	Avg. Time
BoE to Application	3486	138:09:41	268	127:04:18	143	221:59:47
Application to Scrutiny	3497	43:10:50	268	39:05:43	147	102:24:19
Scrutiny to NOC			268	6:57:31	147	17:20:56
Scrutiny to Payment	3495	21:51:53				
Payment to Sample	2335	45:33:14				
Sample to NOC	3489	109:13:05				
Application to NOC			268	46:03:13	147	119:45:14
Total Time	3497	197:57:09	268	46:03:13	147	119:45:14

Product wise FSSAI JNP release time		
Product	N	Average Release Time
Beverages vinegar and spirit	216	233:31:21
Coffee Tea mate and spices	279	200:37:41
Essential oils and resinoids perfumery cosmetic oil seeds and oleaginous fruits miscellaneous grains seeds	356	187:06:19
Sugars and sugar confectionery	208	185:36:33
Edible fruit and nut Lacgumsresins and other vegetable saps and extract, Preparations of vegetables fruit nuts	2262	187:34:31
Preparations of cereals flour starch or milk; pastry cooks'	219	252:56:41

products

Annexure-II

Methodology

Monthly Segregation of Data		
Stakeholder	Import	Export
Port	Vessel Berthing	Port In
Customs	Out of Charge	Let Export Order
CFS	Gate Out	Gate Out
ICD	Departure	Departure
PGA	NOC	NOC

Dwell Time Calculation		
Stakeholder	Import	Export
Port	Container Discharge to Port Out	Port In to Container Loading
Customs	Submission of BoE to OOC	Registration to LEO
CFS	Gate in to OOC	Carting to Gate Out
ICD	Arrival to OOC	Arrival to Departure
PGA	Application to NOC	Application to NOC
Rake TRT	Arrival of Rake to Departure	
Rake THT	Unloading to Loading of Containers	
<i>*TRT- Turn Around Time; THT- Terminal Handling Time</i>		