LDB ANALYTICS : December Report 2017

Logistics Redefined

Executive Summary

DLDS's Logistics Databank Project(LDB) is currently providing Container visibility services for more than 70% of India's Container Volume and as on date has provided services for more than **6 million EXIM Containers of India** in the western corridor starting from the port till the ICD's through a single window(www.ldb.co.in).

Pan India launch of DMICDC's Logistics Databank Operations was announced on 18th Dec 2017, this will enable in bringing Visibility & Transparency across the Indian Supply Chain and reduce the Container Transportation time and the costs.

DLDS Analytics reports have been able to bring in Visibility to the Stakeholders enabling them in improvising the key performance Indicators as below:

- In comparison to the October –November-December 2016 (OND-16) quarter, JNPT has witnessed an improvement across the Import & Export bound Container Dwell Time during the October –November-December 2017 (OND-17) quarter.

OND 2016	JNPT Import Dwell Time Improvement	OND 2017
	42.86%	
	JNPT Export Dwell Time Improvement	
	14.90%	

- JNPT also witnessed improvement in Dwell time for Import & Export Container movement in the OND 17 quarter in comparison to July-Aug-Sep 2017(JAS-17) quarter.

JAS 2017	JNPT Import Dwell Time Improvement	OND 2017
	57.4%	
	JNPT Export Dwell Time Improvement	
	14%	

Executive Summary

- Dwell time of the Container Freight Station(CFS) around JNPT also has witnessed an improvement in comparison to the OND -16 quarter.

OND 2016	JNPT CFS Dwell Time Improvement 26.7%	OND 2017

- There was an improvement recorded across the CFS and ICD Dwell time in comparison to the JAS-17 quarter.

JAS 2017	JNPT CFS Dwell Time Improvement 5.1 %	OND 2017
	ICD Dwell Time Improvement 3.90%	

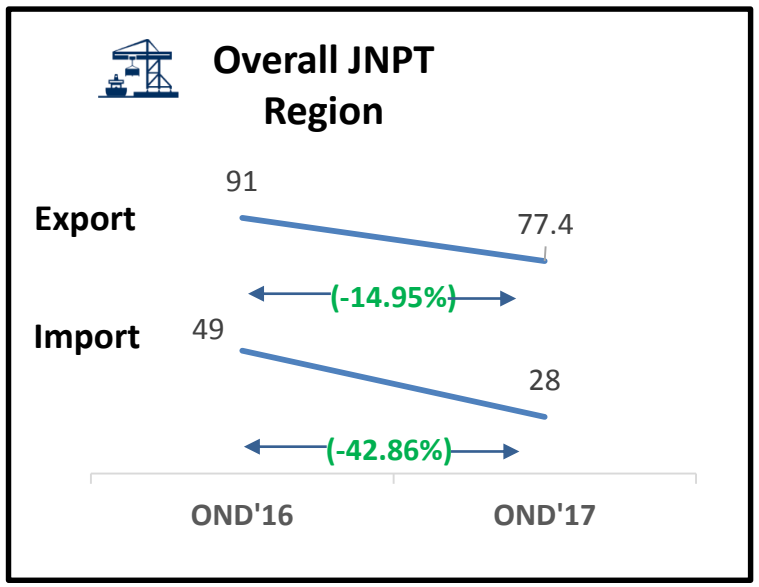
- In comparison to the JAS-17 quarter, lead time of Container movement from NCR region Inland Container Depots to the JNPT region port terminals has improved by 8.3% (approx 1 day).

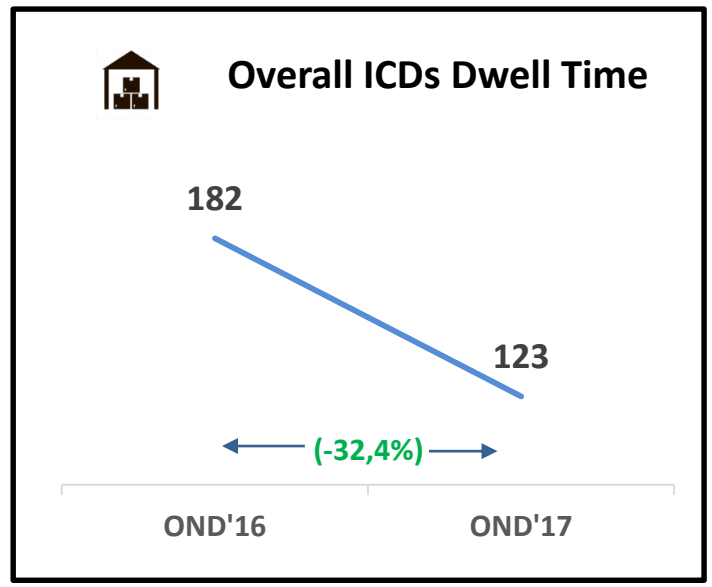
- Improvement of 29% was recorded in the Port dwell time of Gateway Terminal India for the quarter OND'17, their performance had gone down due to Ransomware Virus attack in JAS 2017 quarter.

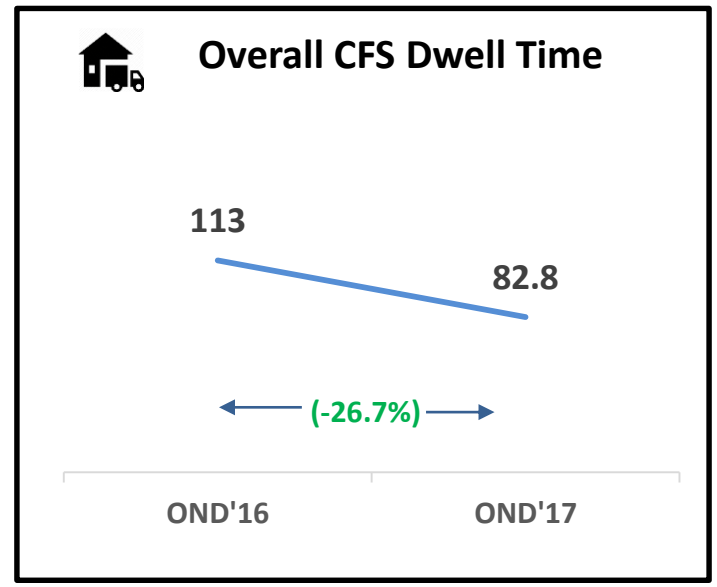
LDB Performance trend across JNPT Region (OND 2016-OND 2017)

Performance Metrics

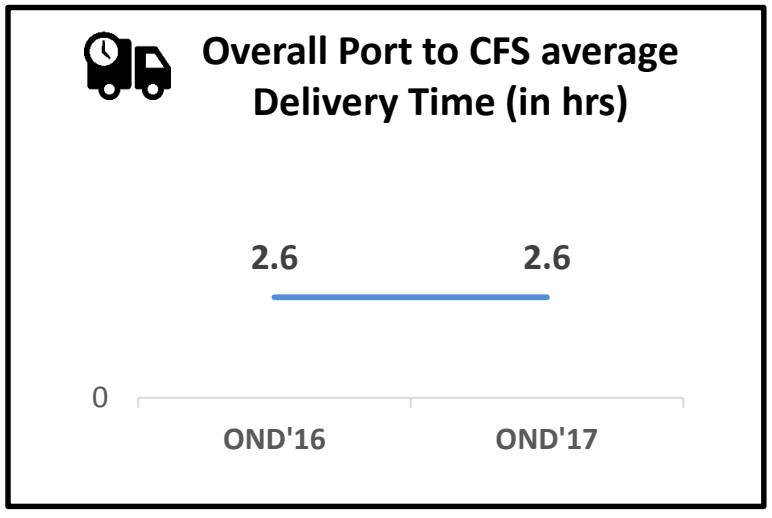
The below graphs depicts the Y-o-Y progress of dwell time performance of JNPT region port terminals, ICDs and CFS under LDB







Transit Time Metrics



Dwell Time Reduction

- Significant improvement in Port dwell time for both Import and Export cycle by 42.86% and 14.9% for OND’17 quarter.
- CFS and ICD dwell time performance has also seen an improvement of approximately 27%

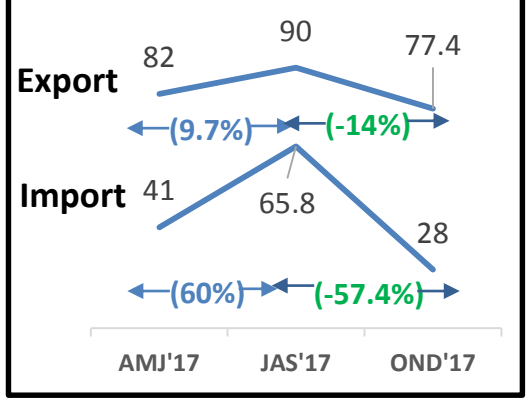
LDB Performance trend across JNPT Region (JAS 2017- OND 2017)

DLDS Logistics Redefined
DMICDC LOGISTICS DATA SERVICES LTD

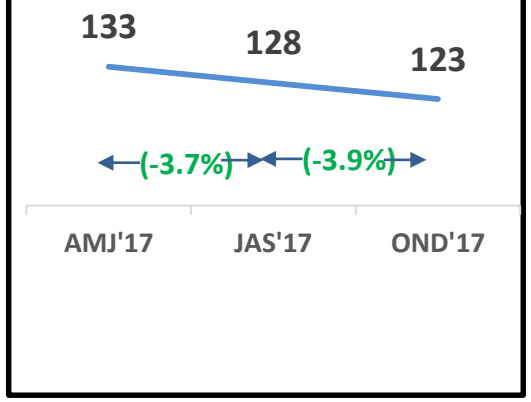
Performance Benchmarking | **Performance Index** | **Container Clearance Time analysis**

With help of above activities below results have been achieved :

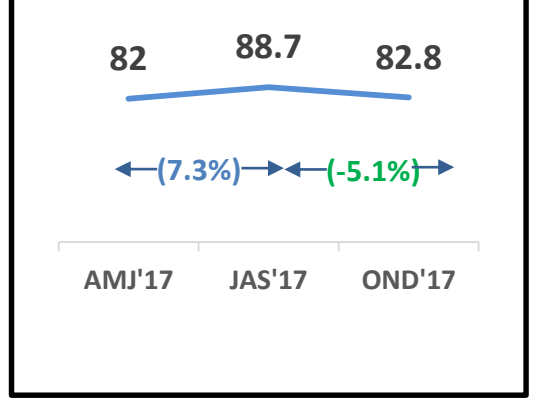
Overall JNPT Region



Overall ICDs Dwell Time



Overall CFS Dwell Time

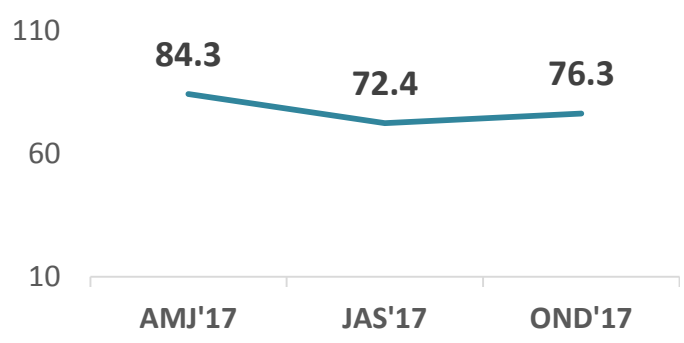


Dwell Time Reduction

- Significant improvement in Port dwell time for both Import and Export cycle by 57.4% and 14% for OND'17 quarter.
- CFS and ICD dwell time performance has also seen an improvement of 5.1% and 3.9 %

Congestion Analysis | **Bottleneck Identification**

Overall Port to ICDs average Delivery Time (in hrs.)



Overall Port to CFS average Delivery Time (in hrs)

DMICDC Logistics Data Services : LDB Coverage

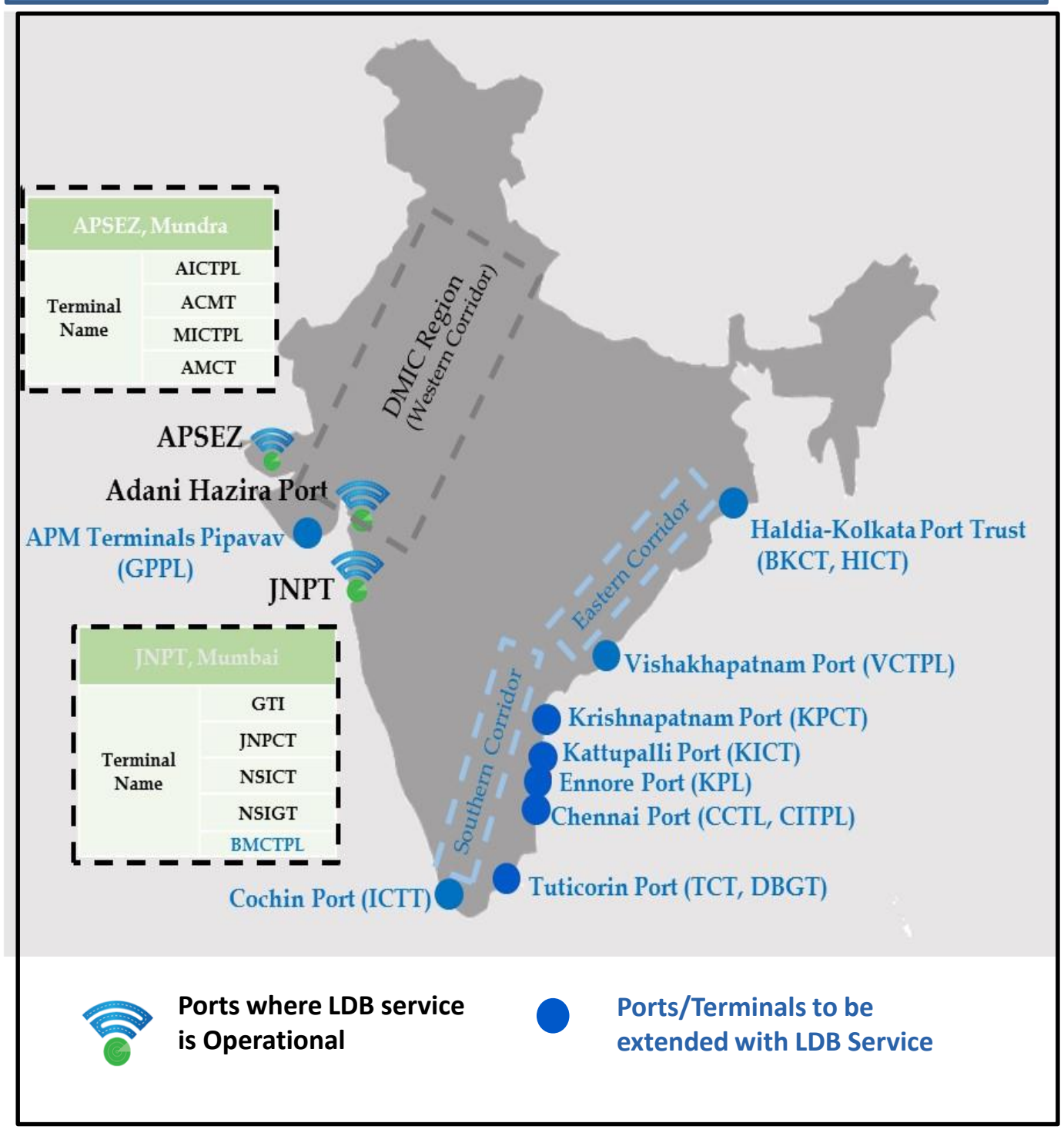
9
Port Terminals

8
In-land container Depots

44
Container Freight Stations

13
Toll Plazas

LDB coverage



Performance Benchmarking

Performance Benchmarking : Port Terminals

Performance benchmarking for JNPT Region Port Terminals- OND ‘17 quarter

Port Terminals

Top Performing Terminal	
Gateway Terminals India (GTI)	Dwell Time : **46** hrs.

Low Performing Terminal	
Jawaharlal Nehru Port Container Terminal (JNPCT)	Dwell Time : **60.4** hrs.

Performance benchmarking for APSEZ Region Port terminals -December’17

Port Terminals

Top Performing Terminal	
Adani Hazira Port Private Limited (AHPPL)	Dwell Time : **56** hrs.

Low Performing Terminal	
Adani CMA Mundra Terminal (ACMTTL)	Dwell Time **: 77.4** hrs.

Performance Benchmarking : Container Freight Station

Performance benchmarking for JNPT Region CFS - OND'17 quarter

CFS

Top Performing CFS's		Low Performing CFS's	
CWC Impex Park CFS, Navi Mumbai	Dwell Time : **53.4** hrs.	**Take Care Logistics CFS**	Dwell Time : **108.6** hrs.

Performance benchmarking for APSEZ Region CFS OND'17 quarter

CFS

Top Performing CFS's		Low Performing CFS's	
Adani CFS Eximyard, Mundra	Dwell Time : **62** hrs.	**Hind Mundra Terminals CFS, Mundra**	Dwell Time : **111** hrs.

Performance Benchmarking : Inland Container Depot

Performance benchmarking for ICDs -OND'17 quarter

Top Performing ICD	
CMA CGM Agencies ICD, Dadri	Dwell Time : **80** hrs.

Low Performing ICD	
CONCOR ICD, Aurangabad	Dwell Time : **181** hrs.

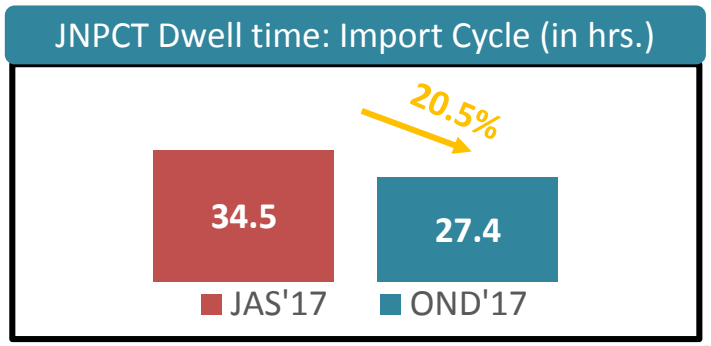
Key Findings

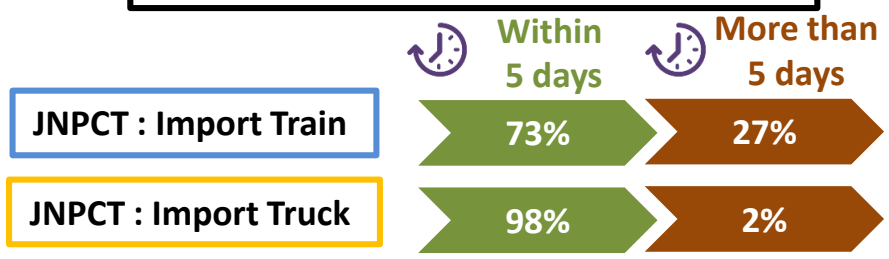
KEY FINDINGS

1 **JNPT region port terminals has seen improvement in its import cycle port dwell time by around 57.4% in OND'17 as compared to JAS'17**

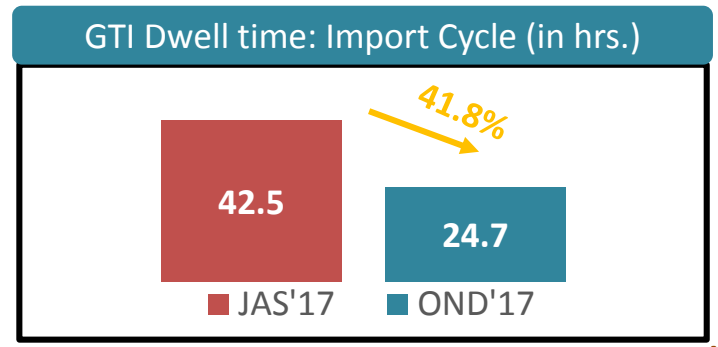
Contributing factor for the reduction in import dwell time is the more efficient handling of the container movement wherein **over 96% of truck bound containers are cleared within 5 days.**

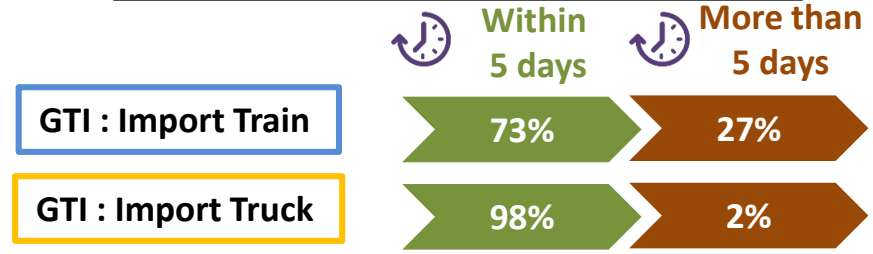
- **JNPCT has improved its Import dwell time by 20.5 %**



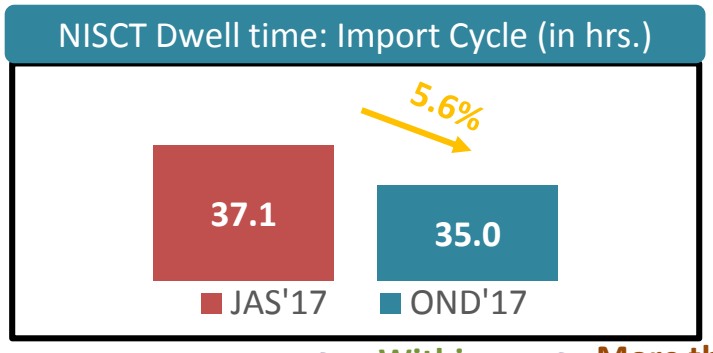


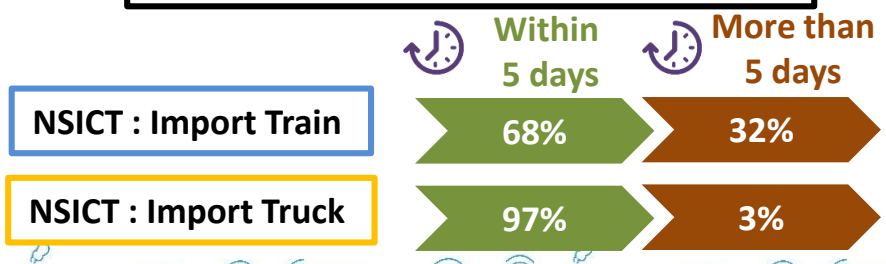
- **GTI has improved its Import dwell time by 41.8 %**



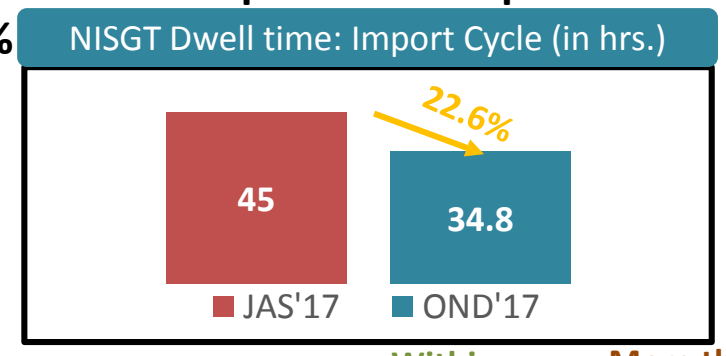


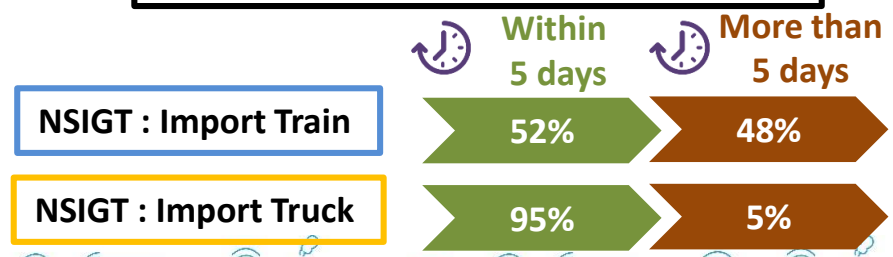
- **NSICT has improved its Import dwell time by 5.6 %**





- **NSIGT has improved its Import dwell time by 22.6% %**



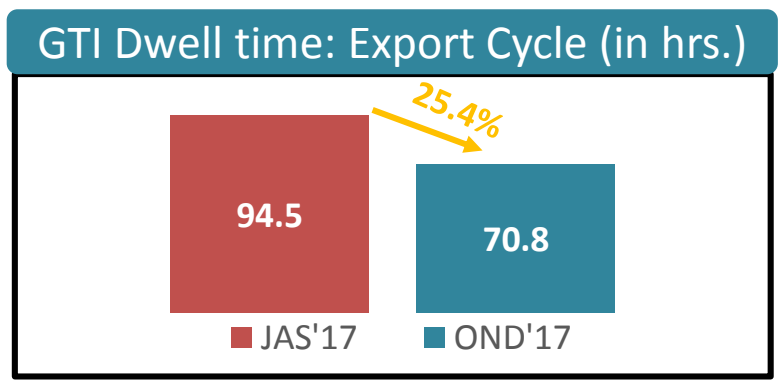


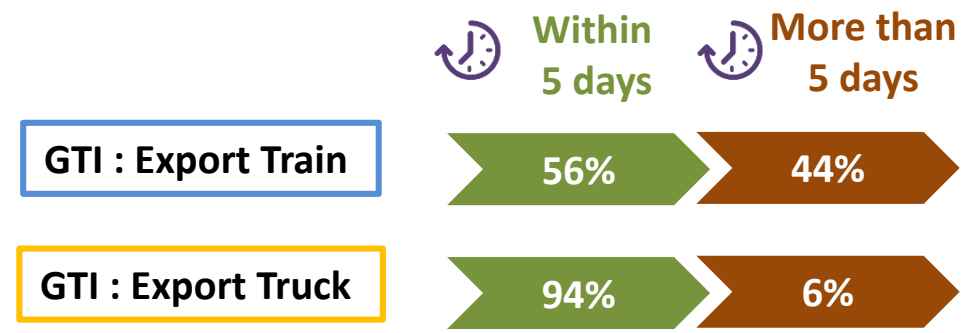
KEY FINDINGS :

1 **JNPT region port terminals has seen improvement in its export cycle port dwell time by around 14% in OND'17 compared to JAS'17**

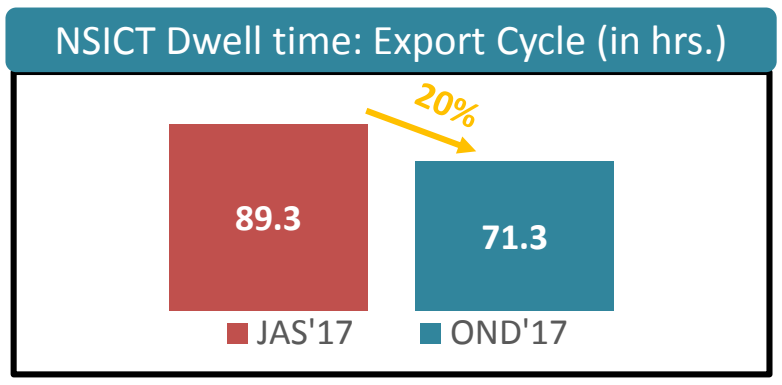
Efficient handling of the container as show below **over 90% of truck bound containers are cleared within 5 days**

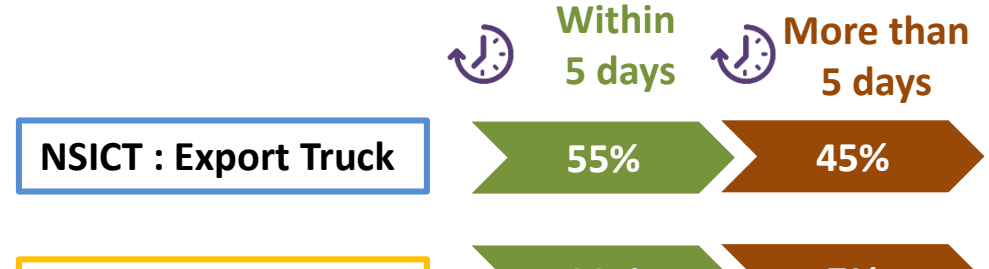
- **GTI has reduced its export dwell time by 25.4 %**



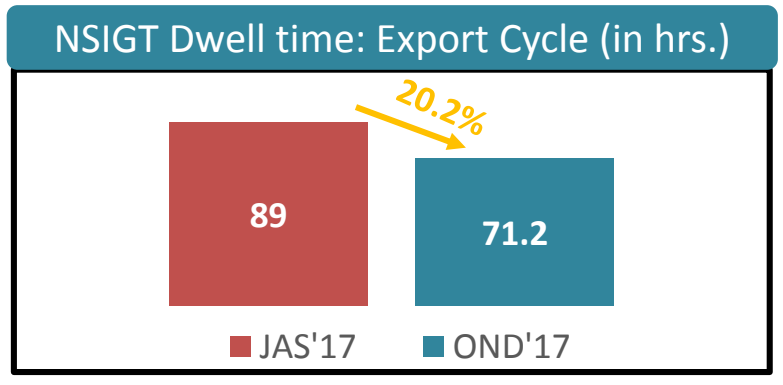


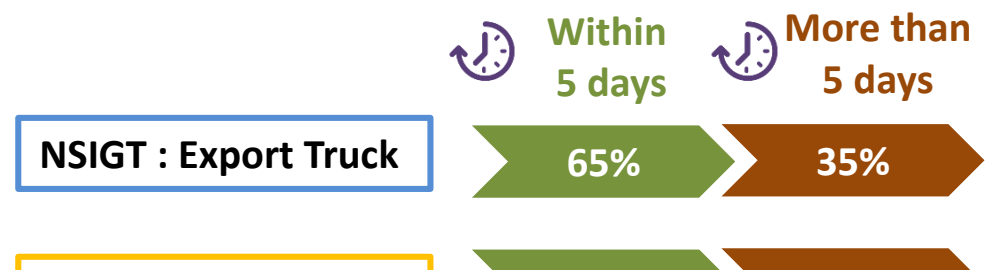
- **NSICT has reduced its export dwell time by 20 %**





- **NSIGT has reduced its export dwell time by 20.2 %**

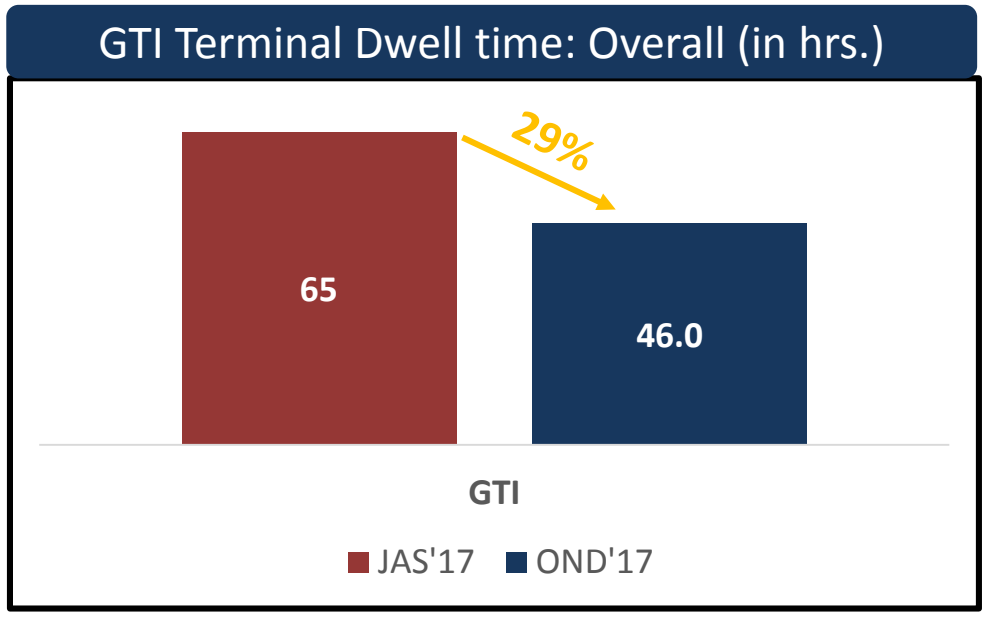


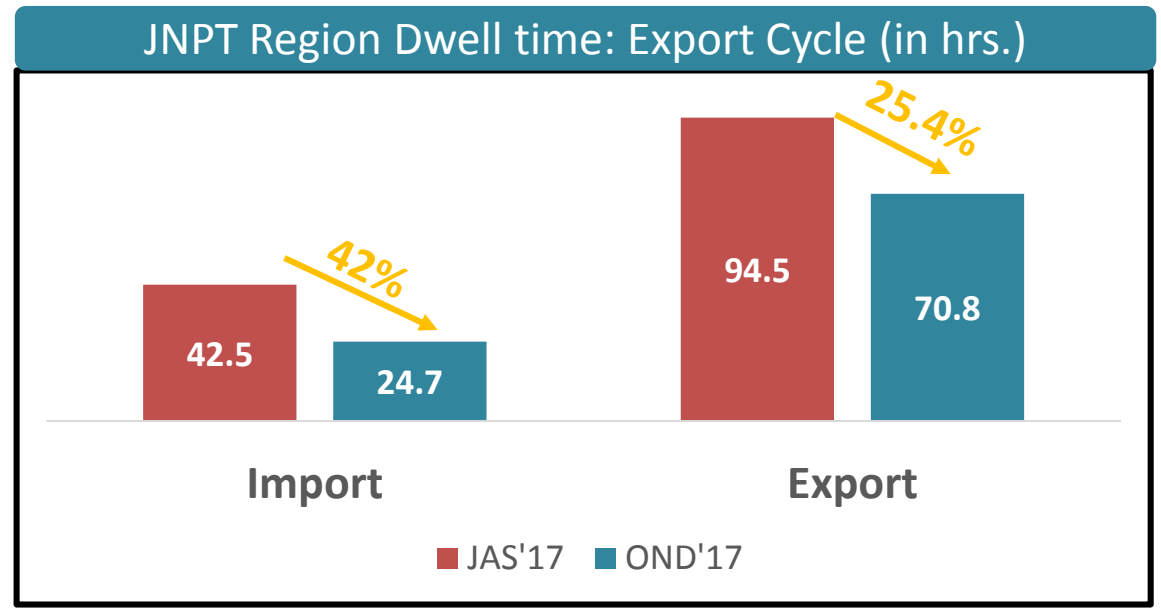


KEY FINDINGS :

2 **GTI terminal has significantly improved its port dwell time performance by 29% in OND'17**

GTI has reduced its overall port dwell time in OND'17 quarter by 29% as compared to last JAS'17 quarter. GTI was attacked by Ransomware in july'17 which affected its performance. However they have significantly recovered their performance in OND'17 quarter. Its import dwell time has been improved by 42% and export dwell time by 25.4 % as compared to last quarter



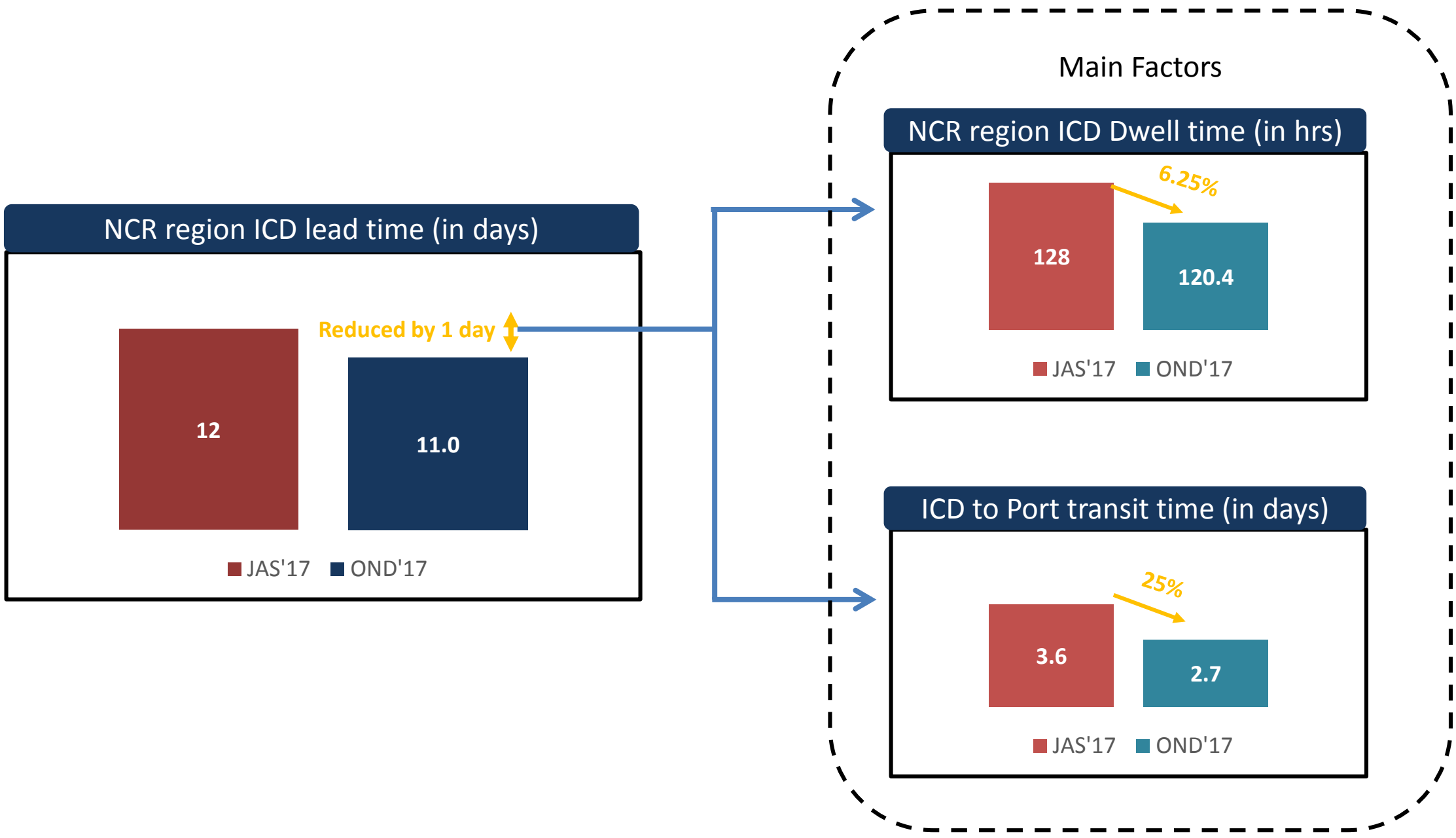


GTI container clearance day distribution has been depicted in the figure. Truck bound container has been managed effectively throughout the OND'17 as around 95% of the containers have been cleared with 5 days

Terminal	OND'17 Within 2 days	Within 2-5 days	More than 5 days
GTI : Import Train	43%	30%	27%
GTI : Import Truck	82%	16%	2%
GTI : Export Train	15%	41%	44%
GTI : Export Truck	26%	68%	6%

KEY FINDINGS :

2 **Lead time of NCR region ICDs has improved by 8.3% in OND'17 quarter as comparison to JAS'17 quarter**

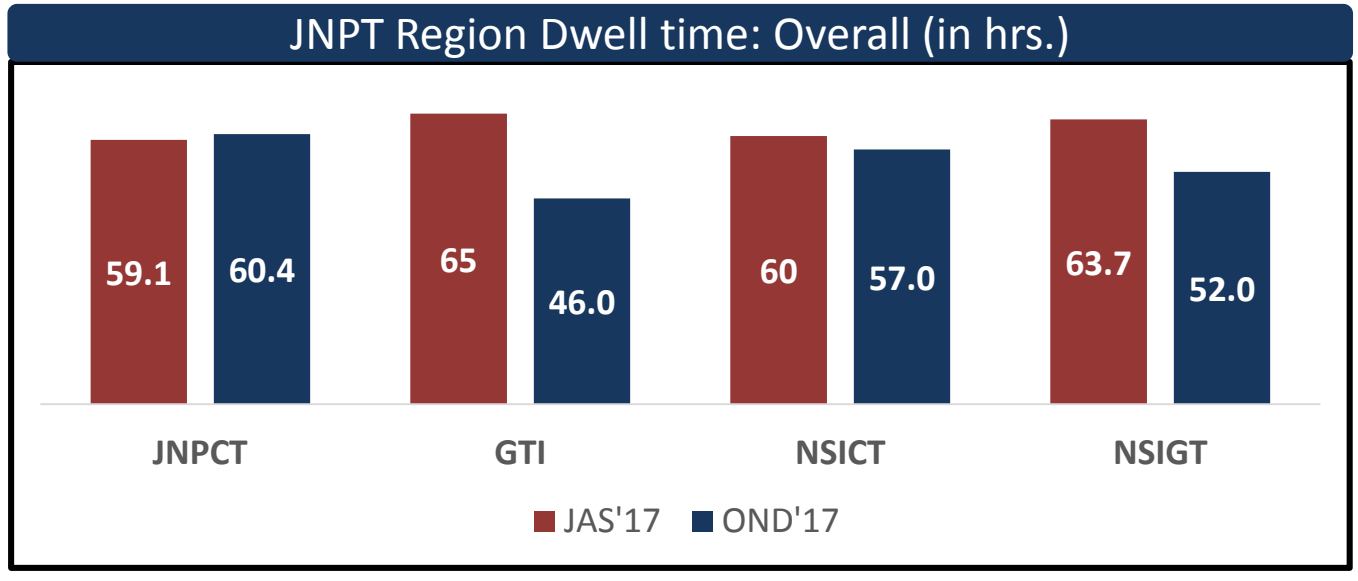


Performance Index

JNPT PORT DWELL TIME TREND

JNPT port dwell time trend :

The below table shows the overall port dwell time (i.e. import and export cycle combine) trend of all the JNPT* Port terminals for quarter OND'17. Port dwell time is the time duration between the entry of the container in Port terminal to the time it moves out of the Port terminal

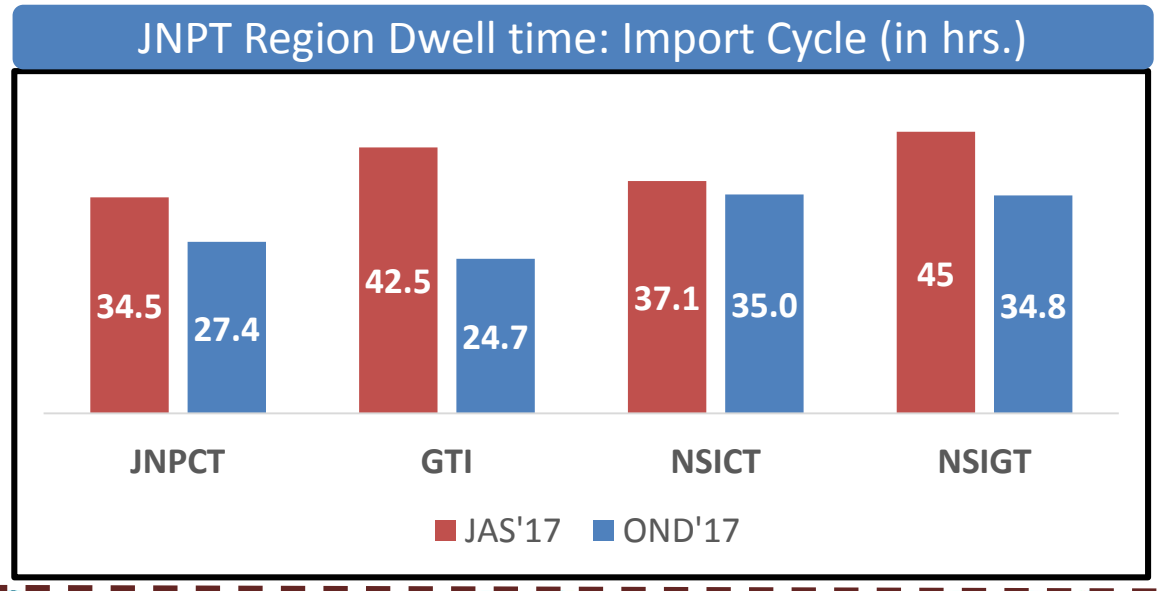


The overall JNPT region average dwell time for OND'17 quarter is 52.3 hrs which has improved from 62 hrs in JAS'17 quarter

The below tables showcase the Import and Export cycle dwell time for both rail and truck bound containers for month of OND'17

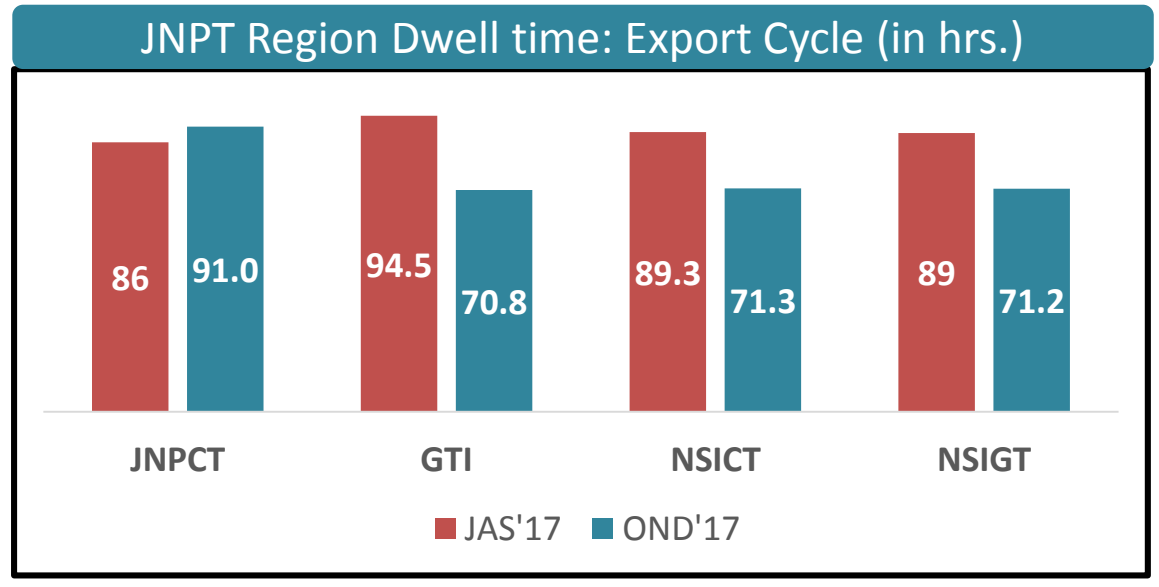
JNPT Import cycle Trend

The average import cycle dwell time of JNPT region port terminals for OND'17 quarter is 28 hrs. which has improved from 65.8 hrs in JAS'17



JNPT Export cycle Trend

The average export cycle dwell time of JNPT region port terminals for OND'17 quarter is 77.4 hrs which has improved from 90 hrs in JAS'17



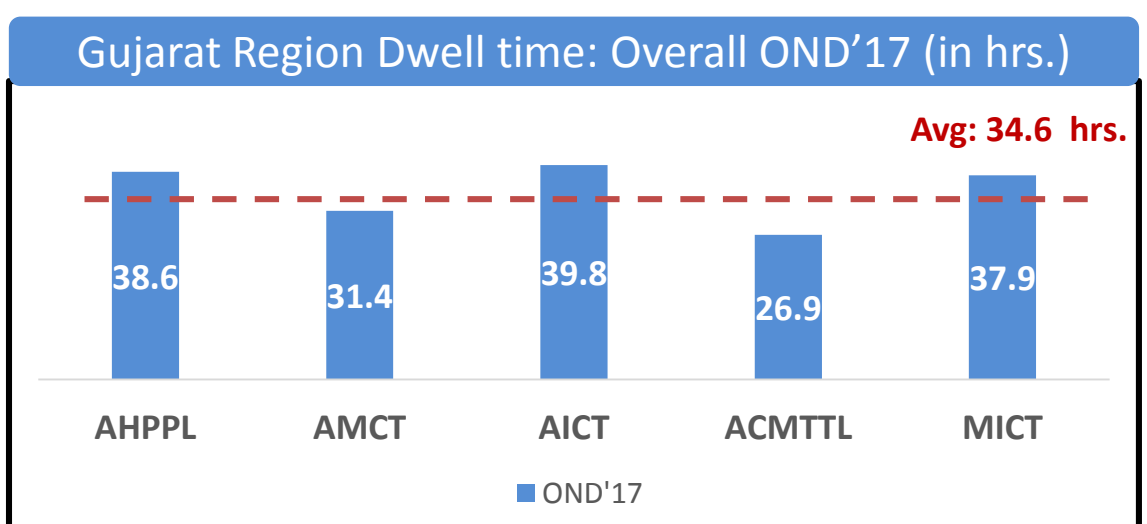
Gujarat PORT DWELL TIME TREND

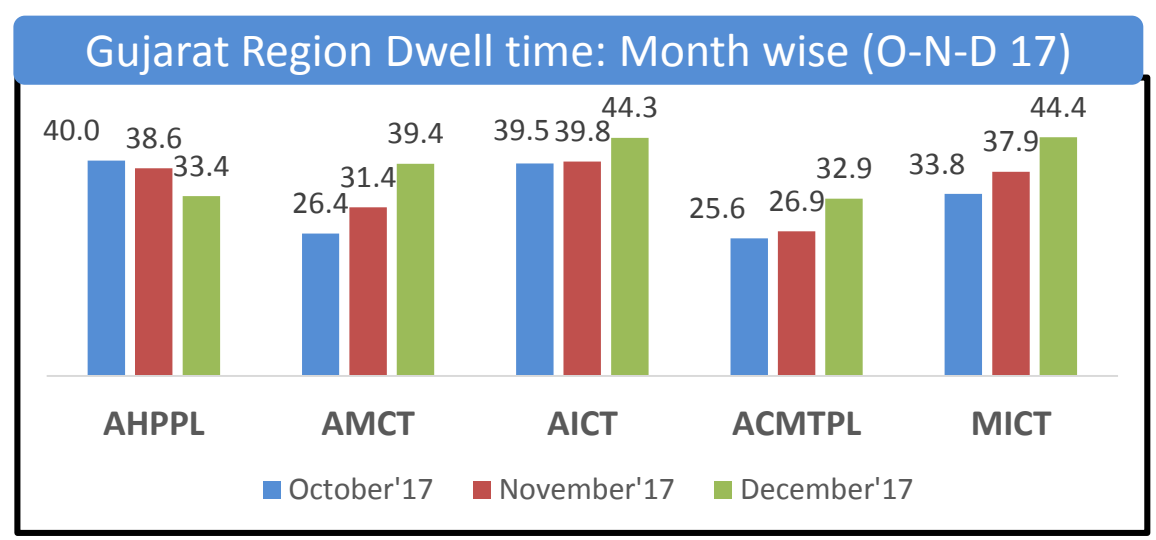
Gujarat port dwell time trend :

Port dwell time is the time duration between the entry of the container in Port terminal to the time it moves out of the Port terminal

Gujarat Region Import cycle Trend

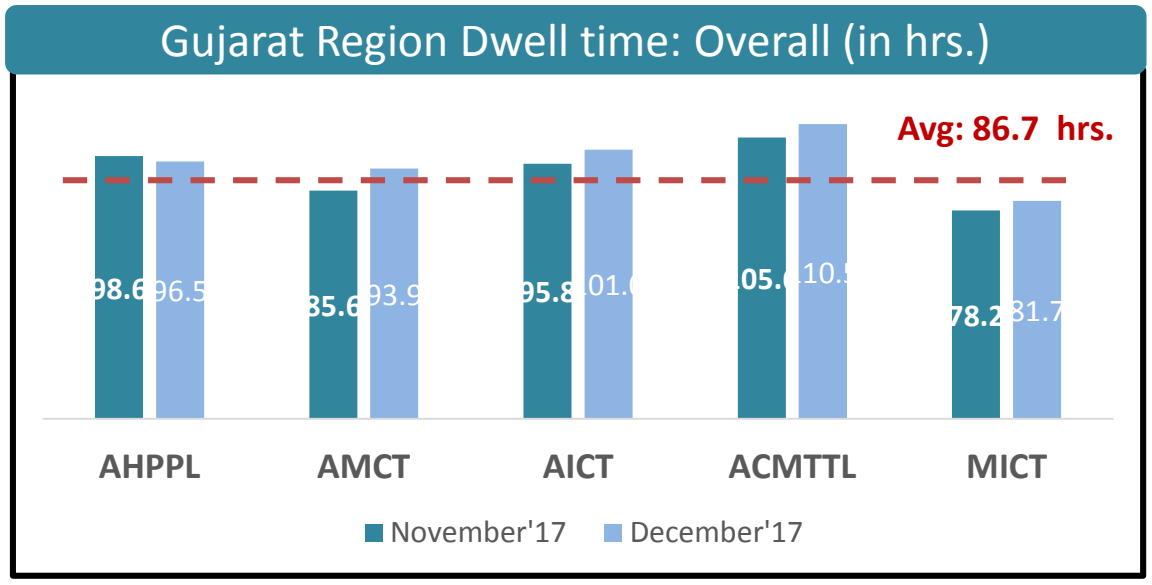
The below tables showcase the Import dwell time for both rail and truck bound containers (combined) for quarter OND'17





Gujarat Region Export cycle Trend

The below tables showcase the Export cycle dwell time for both rail and truck bound containers (combined) for month of Novemeber'17 & Decemeber'17

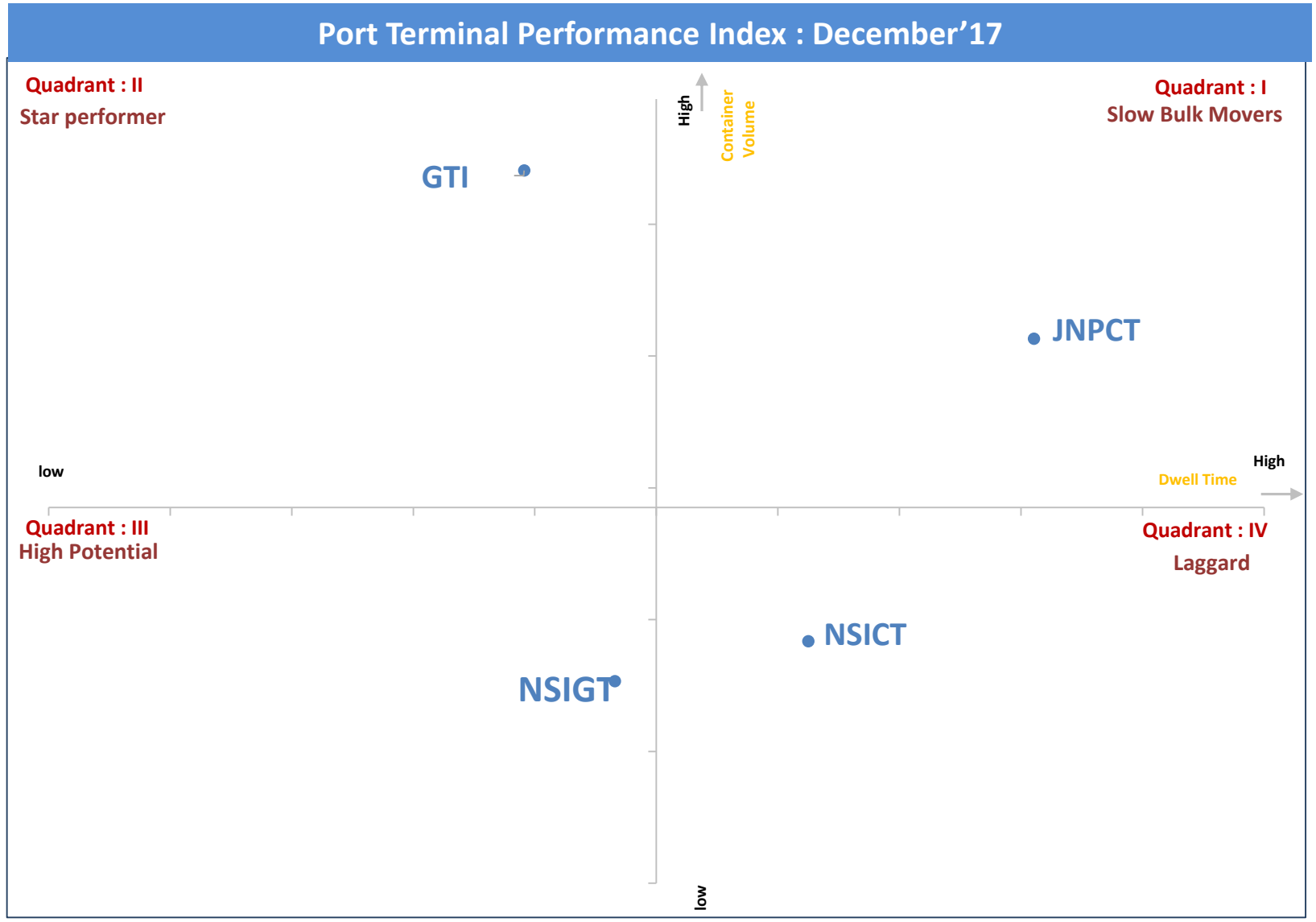


The average export cycle dwell time of Gujrat region port terminals for December'17 quarter is 86.7 hrs.

JNPT region PORT Terminals : Performance Index

In order to assess the relative performance Port, Container Freight Station and Inland Container Depot ,the relative dwell time as well as the volume of containers handled by them are depicted graphically in the form of an index to portray the performance of a particular organisation on the basis of these two combined factors.
The figure depicts the Frequency Index i.e. volume by dwell time performance for JNPT Port terminals for December'17. The Quadrant II represents the high performing ports with high frequency Index i.e. high container volume at lower dwell time

Slow Bulk Movers : consist of Ports which have catered higher container volume at higher dwell time	Star Performer: consist of Ports which have catered relatively high container volume in lower dwell time	High Potential : consist of Ports which have catered relatively lower container volume in lower dwell time	Quadrant IV : consist of Ports which have catered relatively lower container volume at higher dwell time



Gujarat region PORT Terminals : Performance Index

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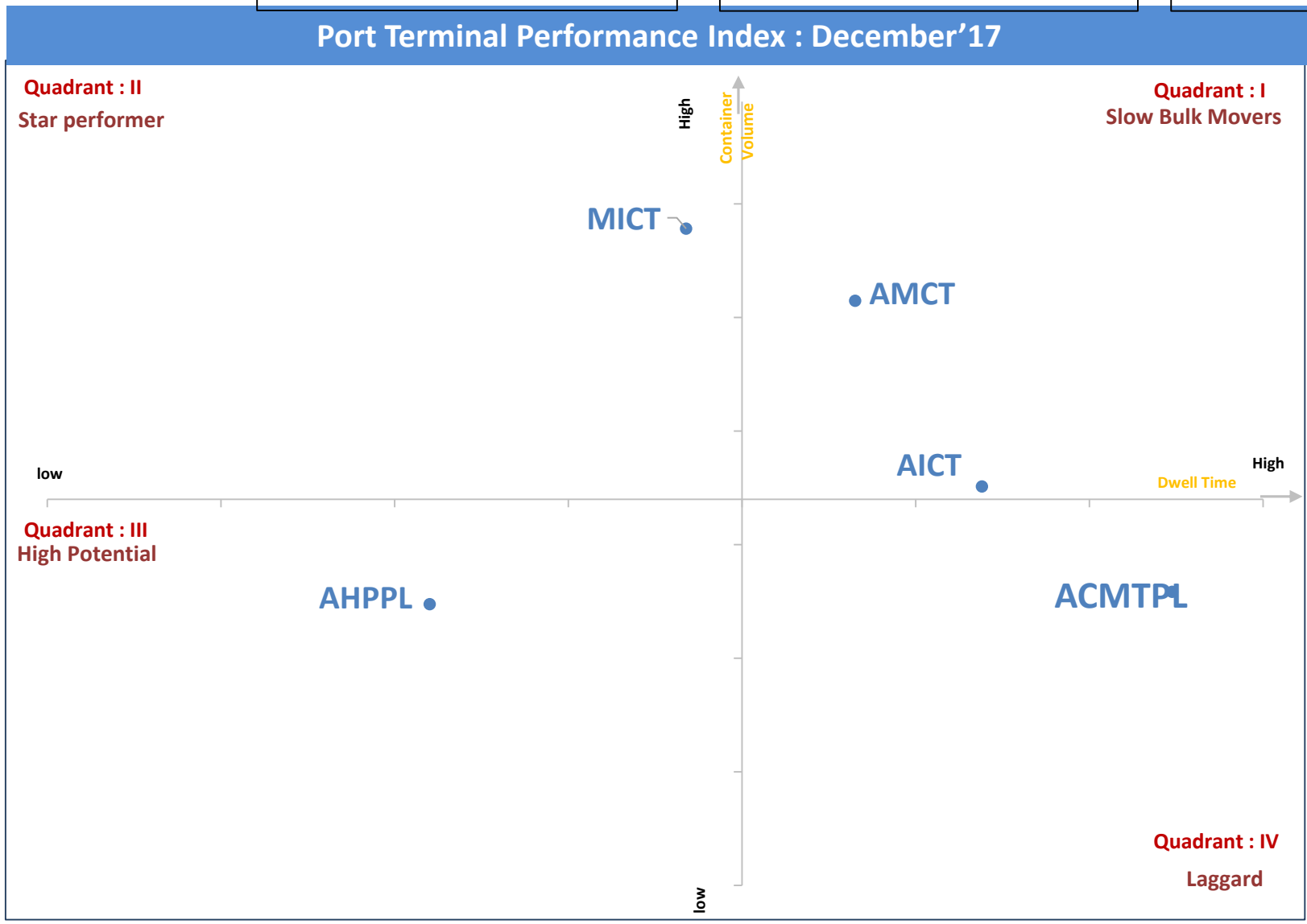
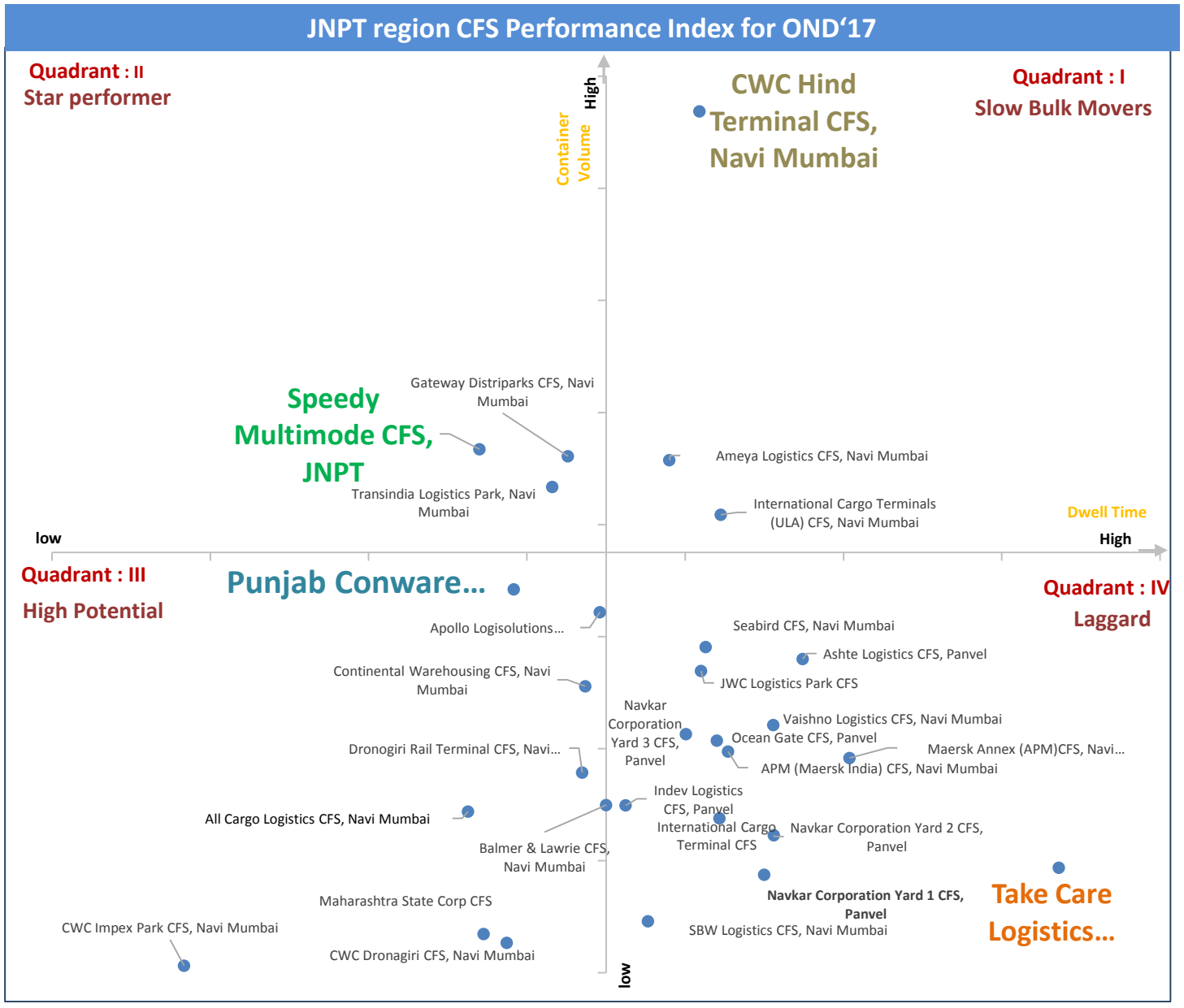
The figure depicts the Frequency Index i.e. volume by dwell time performance for APSEZ Port terminals for December'17. The Quadrant II represents the high performing ports with high frequency Index i.e. high container volume at lower dwell time

Slow Bulk Movers : consist of Ports which have catered higher container volume at higher dwell time	Star Performer: consist of Ports which have catered relatively high container volume in lower dwell time	High Potential : consist of Ports which have catered relatively lower container volume in lower dwell time	Quadrant IV : consist of Ports which have catered relatively lower container volume at higher dwell time



JNPT region CFS : Performance Index

The below graph depicts the Performance Index for all CFS for OND'17 quarter. The Quadrant II represent the best CFS with high frequency Index i.e. high container volume at lower dwell time



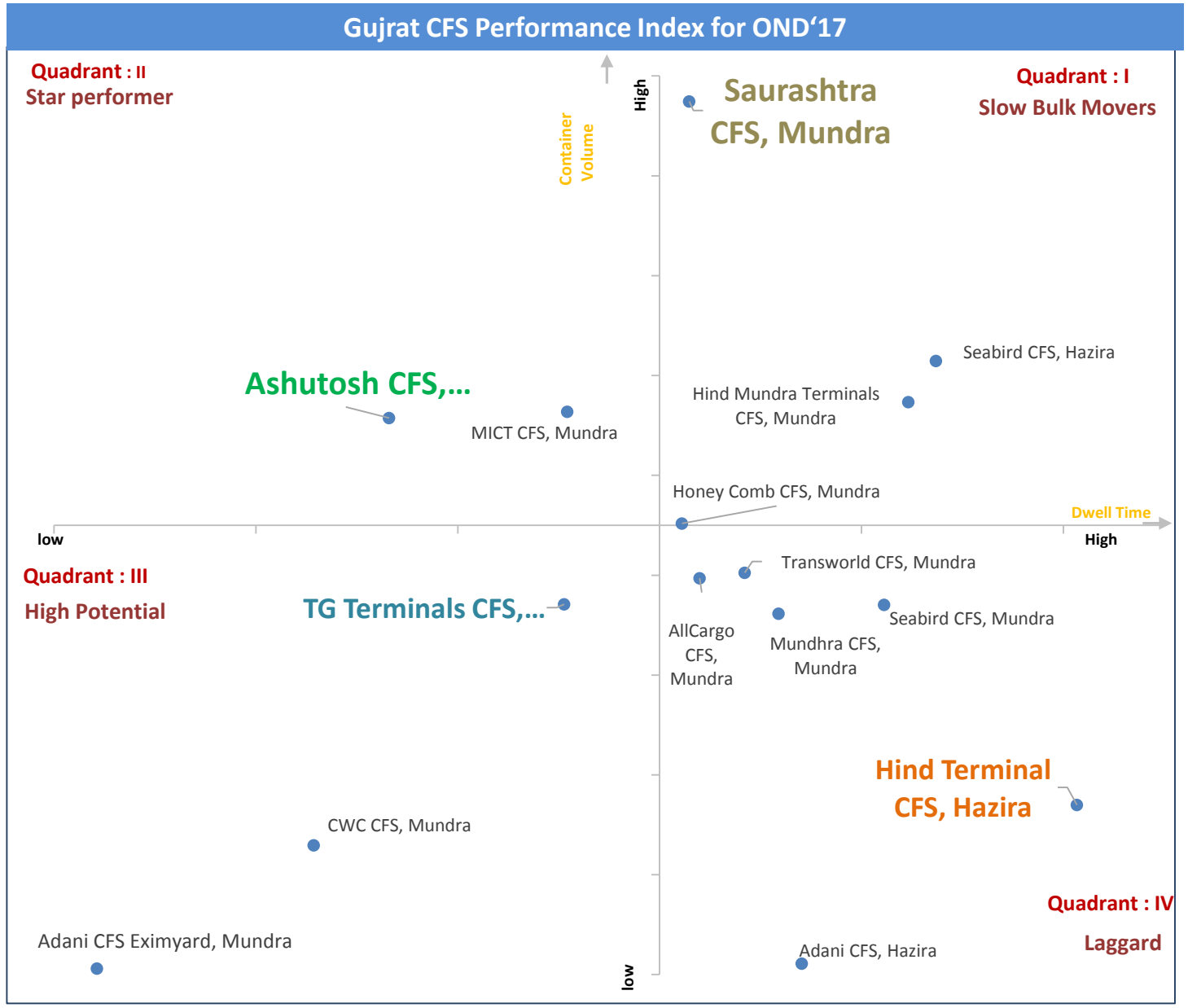
Legends

Top in category

- **Star performer**
- **Slow bulk mover**
- **High potential**
- **Laggard**

Gujrat region CFS : Performance Index

The below graph depicts the Performance Index for all CFS for month of OND'17. The Quadrant II represent the best CFS with high frequency Index i.e. high container volume at lower dwell time



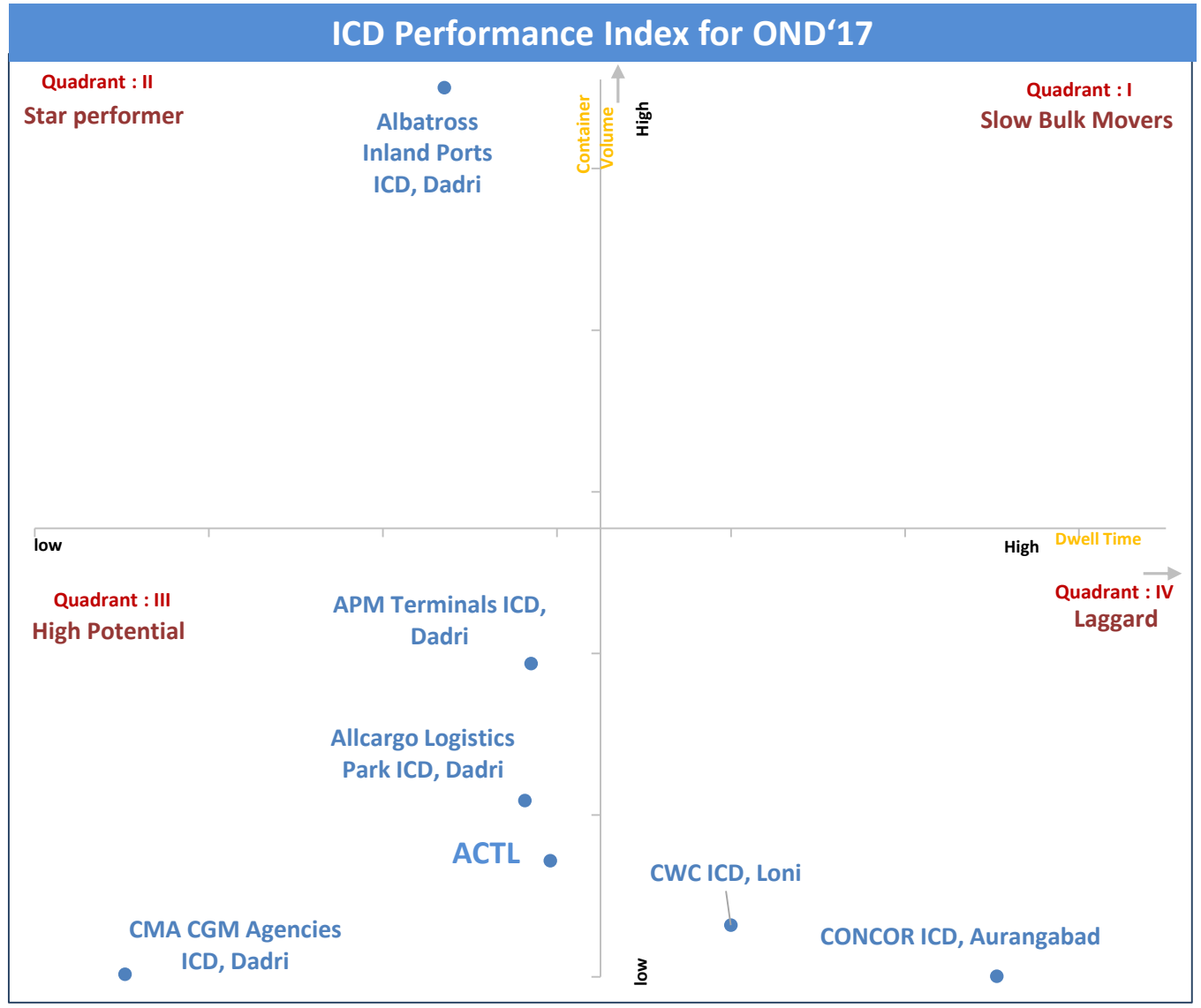
Legends

Top in category

- **Star performer**
- **Slow bulk mover**
- **High potential**
- **Laggard**

ICDs : Performance Index

The below graph depicts the Performance Index for all ICDs for OND'17. The Quadrant II represent the best ICD with high frequency Index i.e. high container volume at lower dwell time



JNPT REGION :

CONGESTION ANALYSIS AND HEAT MAP

JNPT REGION : CONGESTION ANALYSIS OND'17

Congestion Analysis around Mumbai Region

Cluster 1	Cluster 2
JNPT Area	Bhendkhal area, Khopate road
Cluster 3	**Cluster 4**
Sonari area,JNPT road	Chirle area , JNPT road
Cluster 5	**Cluster 6**
Plaspa area, Coachi kanyakumari Highway	Salva apta rd area, Bangalore highway
Cluster 7	**Cluster 8**
Patilpada area, Khopate JNPT road	Taloja, Navi Mumbai

Note : Please find the respective CFS in each cluster in annexure section

Legends

- High Congestion
- Medium Congestion
- Low Congestion
- Cluster with bottleneck
- Cluster without bottleneck

It is seen that Cluster 1 has congestion bottleneck throughout the OND'17 quarter

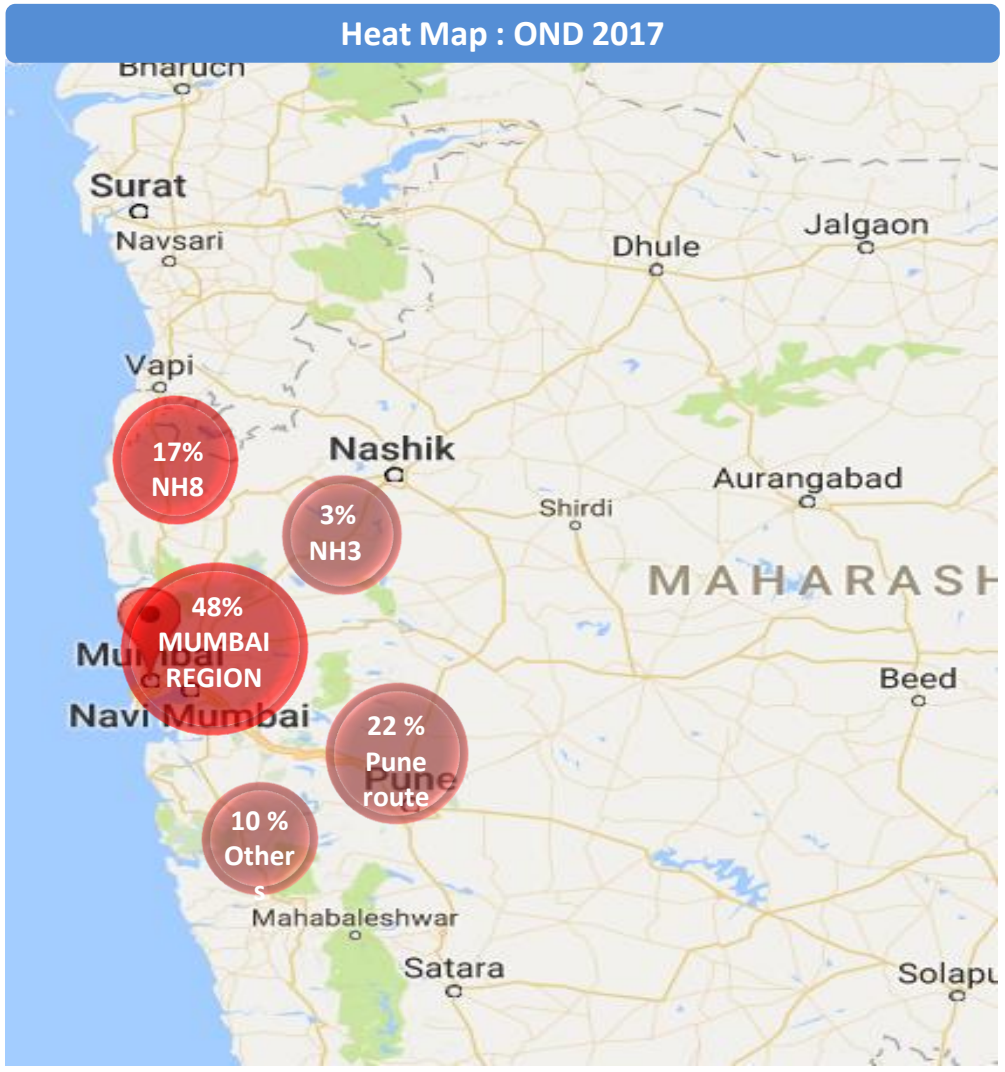
GTI Terminal	JNPCT Terminal	NSICT Terminal	NSIGT Terminal
Congestion Level	Congestion Level	Congestion Level	Congestion Level
Export Cycle :-	Export Cycle :-	Export Cycle :-	Export Cycle :-
Import Cycle :-	Import Cycle :-	Import Cycle :-	Import Cycle :-

Note : Congestion is measured w.r.t actual time taken to cover the respective distance between clusters and terminals(

Container movement around JNPT Port terminal region via Truck

DLDS Logistics Redefined
DMICDC LOGISTICS DATA SERVICES LTD

HEAT MAP : Overall Mumbai region



Region	JAS'17	OND'17
Mumbai Region	47%	48%
Pune	19%	22%
NH8	22%	17%
NH3	2%	3%
Others	10%	10%

The heat map above depicts the movement of containers in and around the Mumbai region.

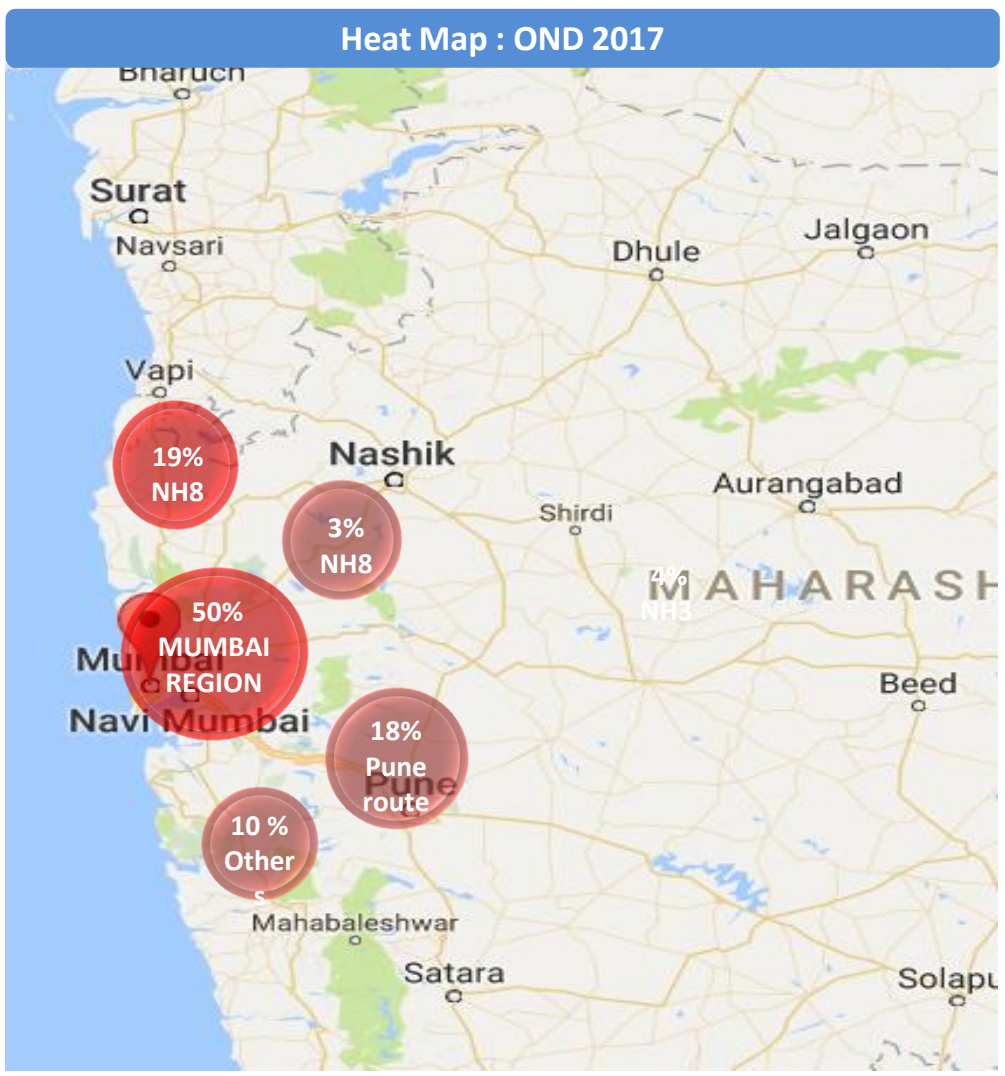
HEAT MAP : GTI Port Terminal

Region	JAS'17	OND'17
Mumbai Region	58%	59%
Pune	14%	19%
NH8	16%	10%
NH3	2%	2%
Others	10%	10%

The heat map above depicts the movement of containers in and around the Mumbai region.

Container movement around JNPT Port terminal region via Truck

HEAT MAP : JNPCT Port Terminal



Region	JAS'17	OND'17
Mumbai Region	51%	50%
Pune	15%	18%
NH8	22%	19%
NH3	2%	3%
Others	10%	10%

The heat map above depicts the movement of containers in and around the Mumbai region.

HEAT MAP : NSICT Port Terminal

Region	JAS'17	OND'17
Mumbai Region	53%	47%
Pune	15%	20%
NH8	15%	20%
NH3	3%	3%
Others	10%	10%

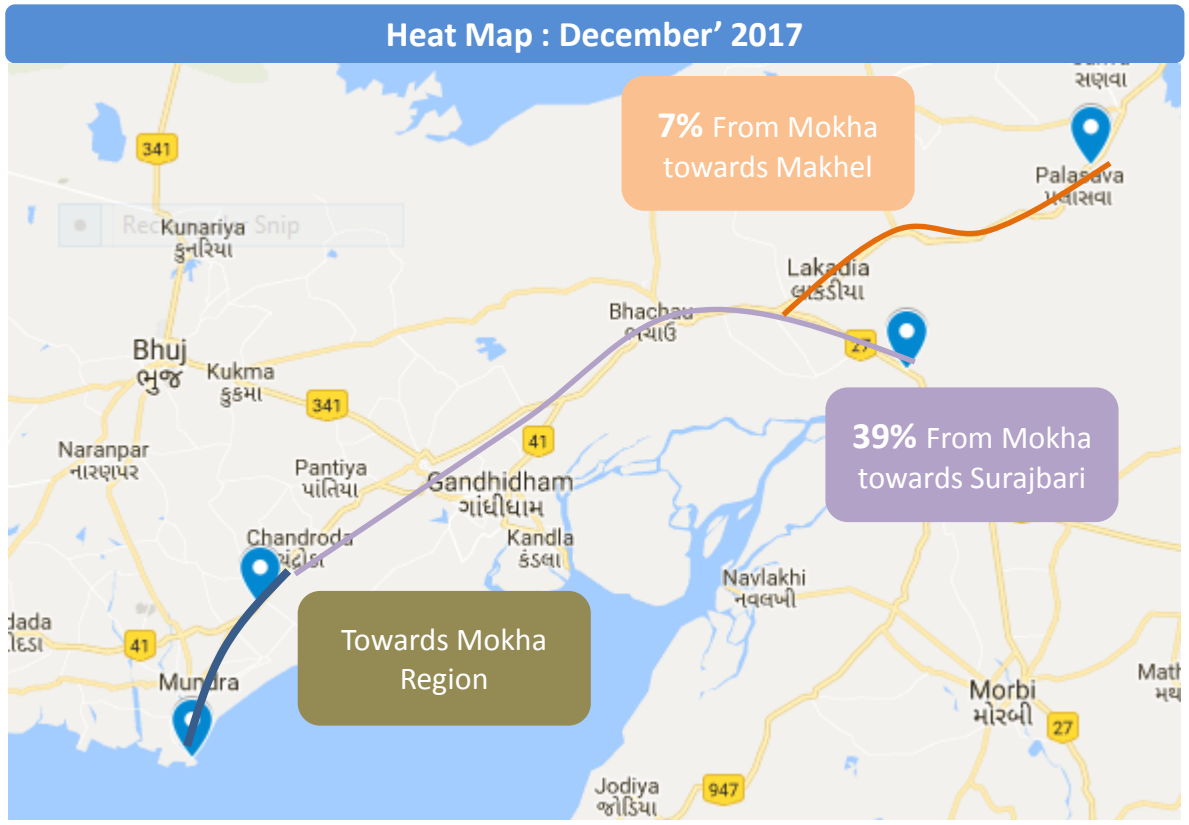
The heat map above depicts the movement of containers in and around the Mumbai region.

Container movement around Mundra region via Truck

The below graphs display the container traffic bifurcation from Mundra region towards Mokha and Surajbari routes for overall Mundra region and South Basin Custom Gate

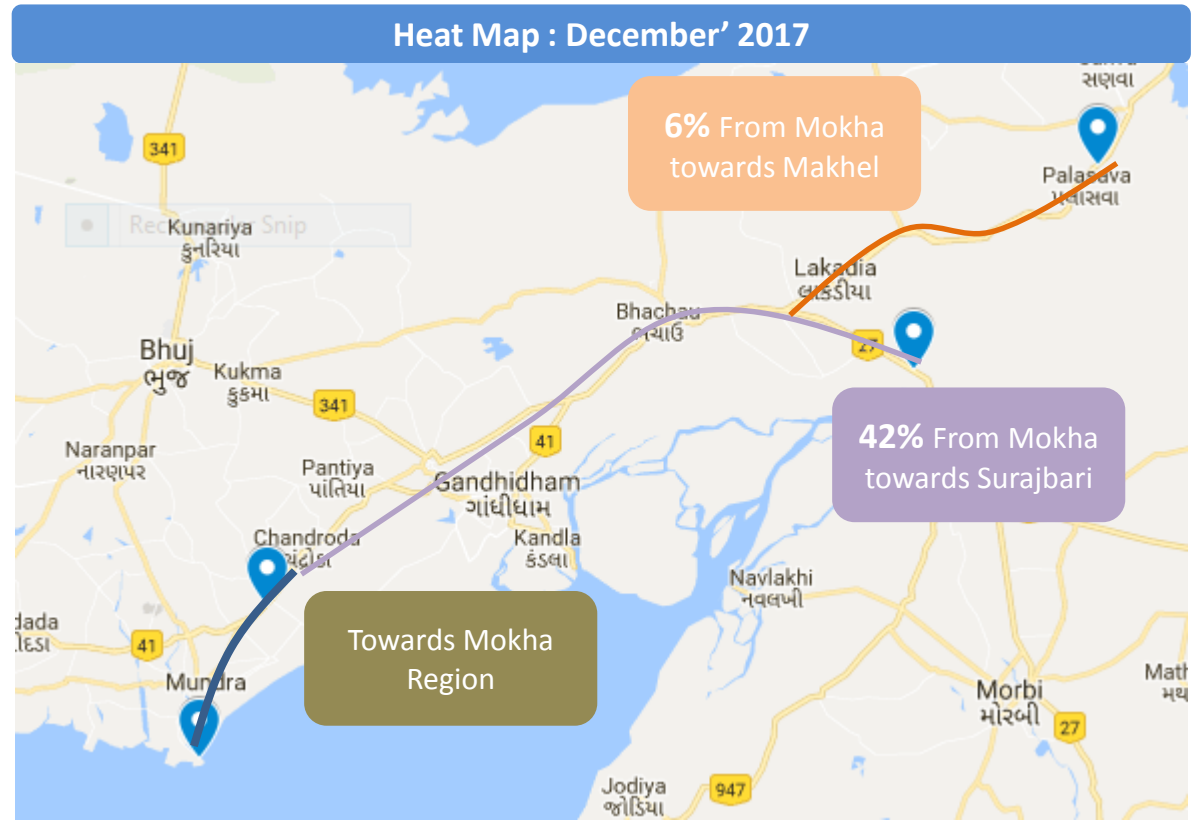
HEAT MAP : Overall Mundra Region

i.e. all 4 termainals at Mundra port region i.e. MICT, AICT, AMCT, AHPTL



From Mokha towards		
Region	December'17	November'17
Surajbari	**39%**	**50%**
Makhel	**7%**	**7%**

HEAT MAP : South Basin Custom Gate



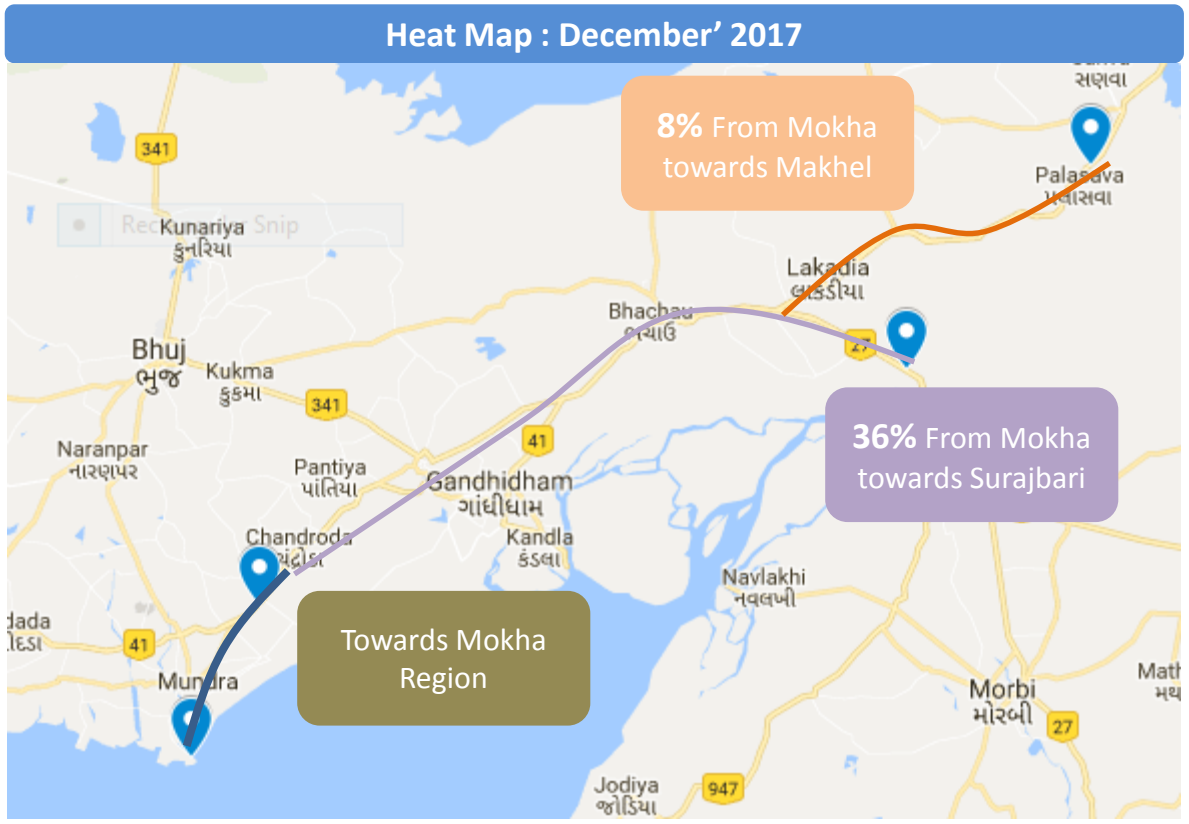
From Mokha towards		
Region	December'17	November'17
Surajbari	**42%**	**55%**
Makhel	**6%**	**7%**

Note: LDB system has been installed at Mundra region toll plaza from November'17 onwards

Container movement around Mundra region via Truck

The below graphs display the container traffic bifurcation from Mundra region towards Mokha and Surajbari routes for overall MPT Custom gate and APSEZ Region

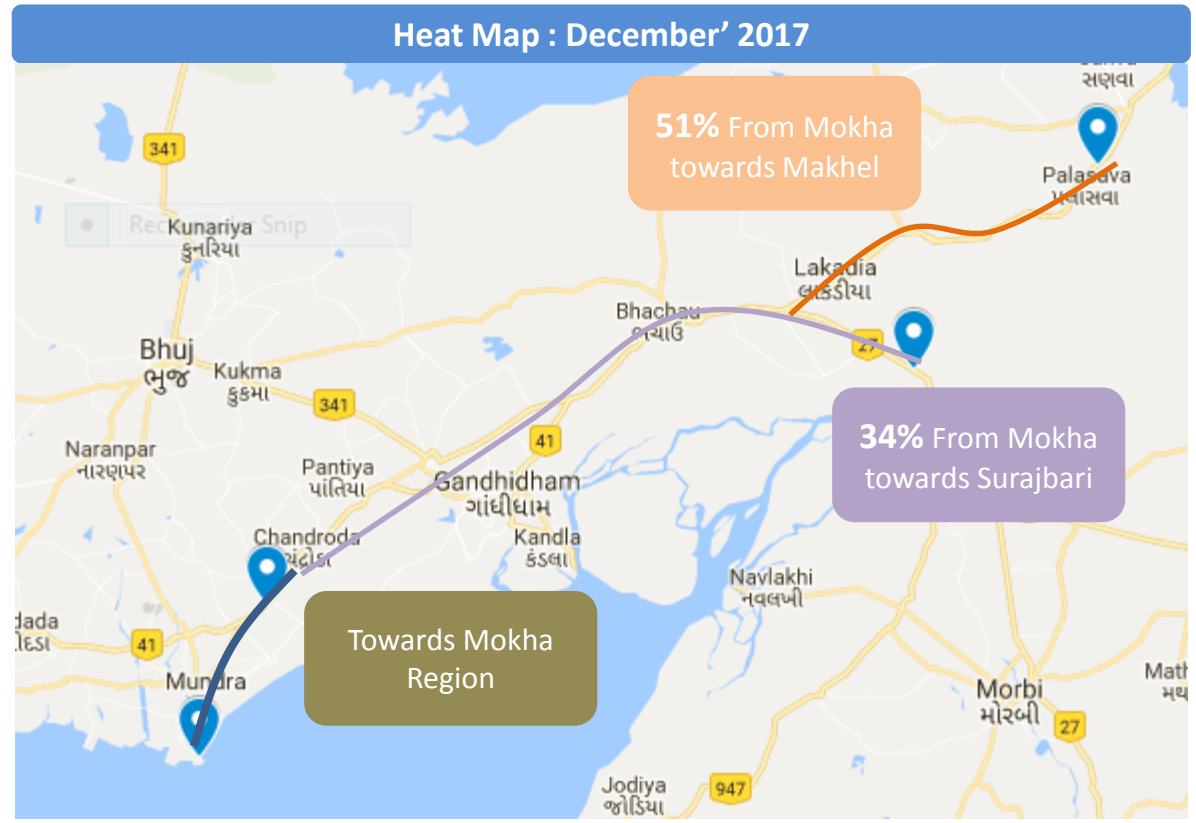
HEAT MAP : MPT Custom Gate



From Mokha towards		
Region	December'17	November'17
Surajbari	**36%**	**46%**
Makhel	**8%**	**7%**

HEAT MAP : APSEZ Region

i.e. only Adani port termainals at Mundra port region i.e. AICT, AMCT, AHPTL



From Mokha towards		
Region	December'17	November'17
Surajbari	**34%**	**30%**
Makhel	**51%**	**62%**

Note: LDB system has been installed at Mundra region toll plaza from November'17 onwards

Container movement around JNPT Port terminal region via Train

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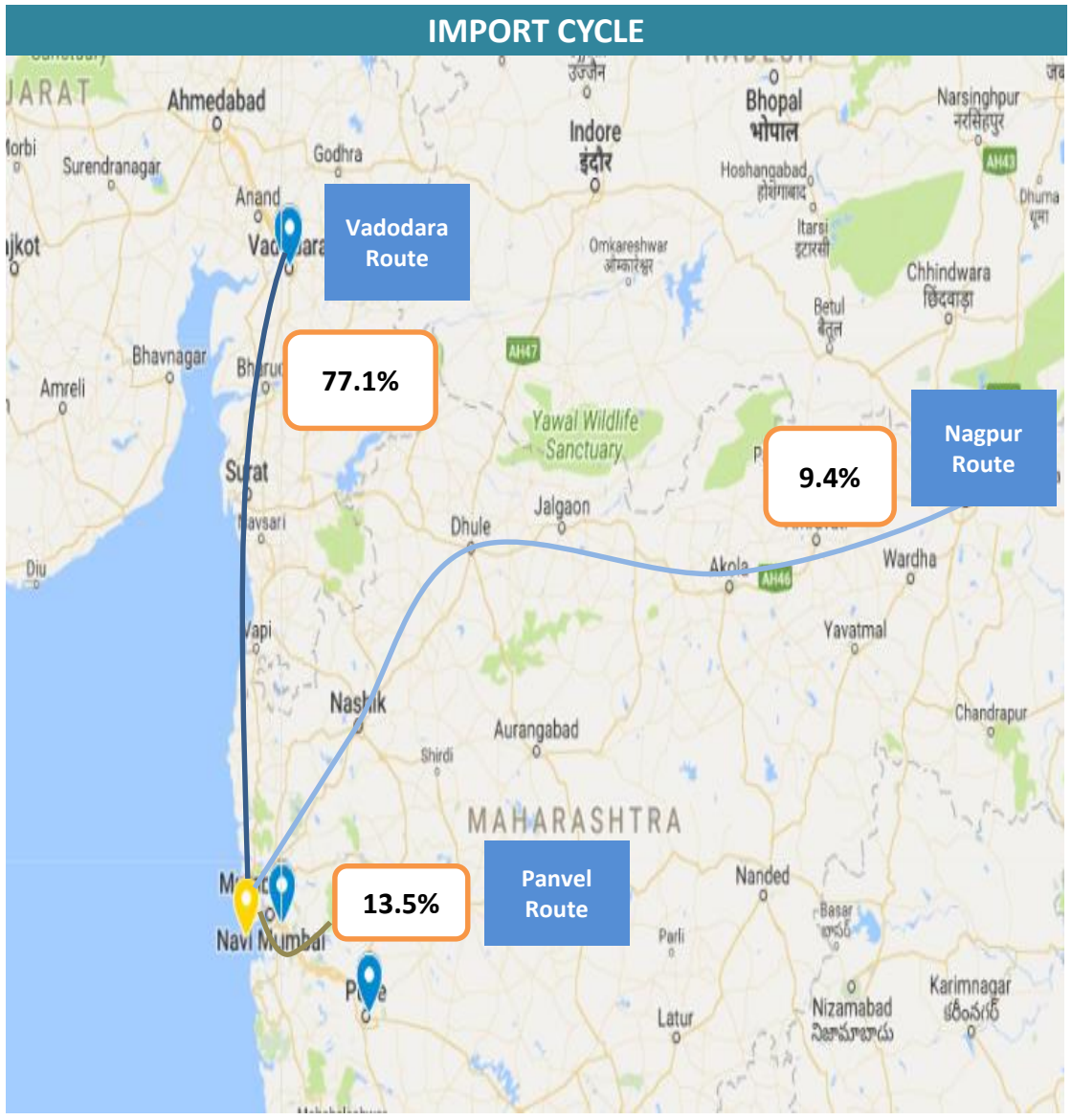
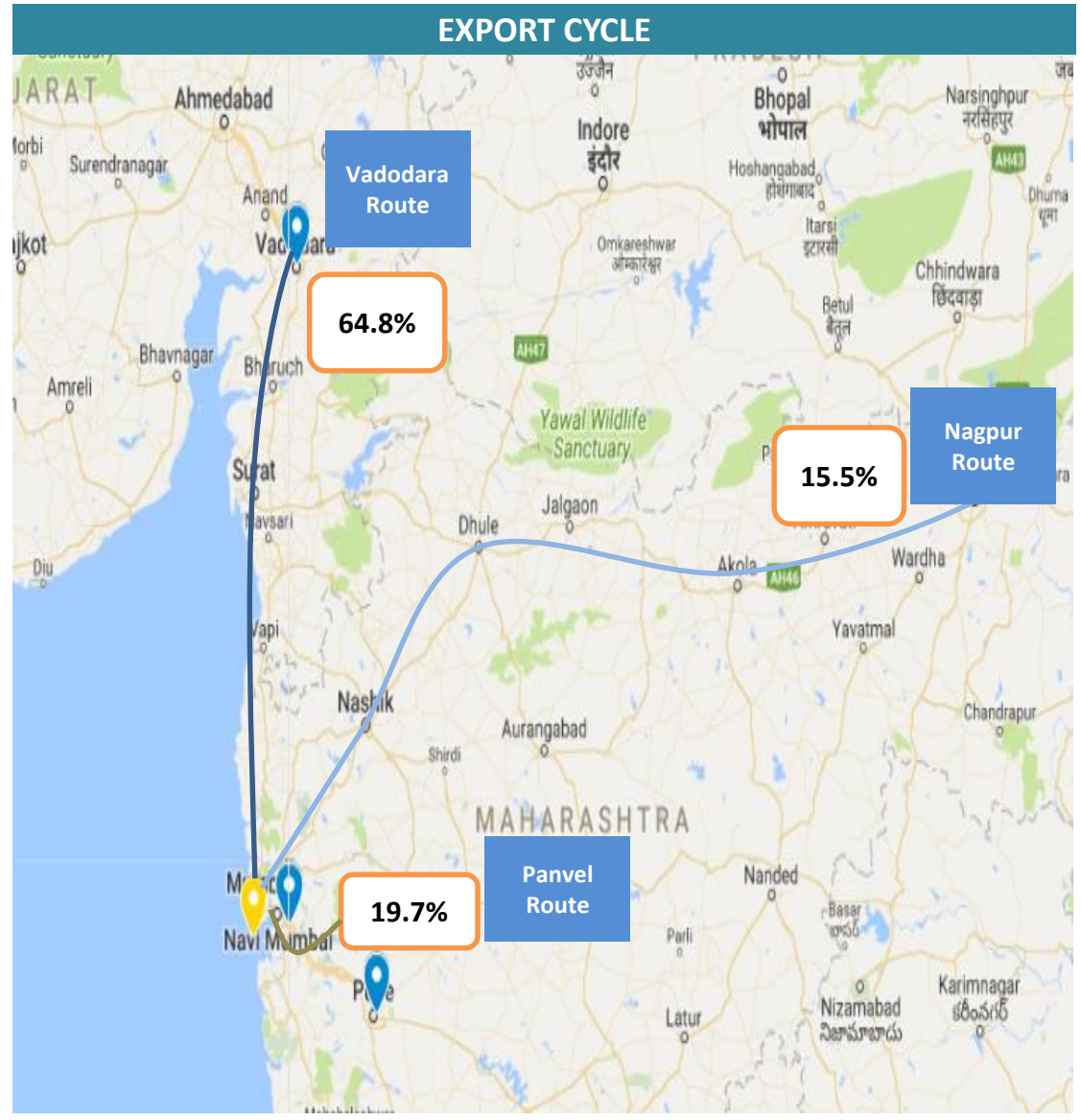
Container Movement around JNPT region via Train

The map shows the volume wise container movement through different railway routes in export and import cycle for OND'17

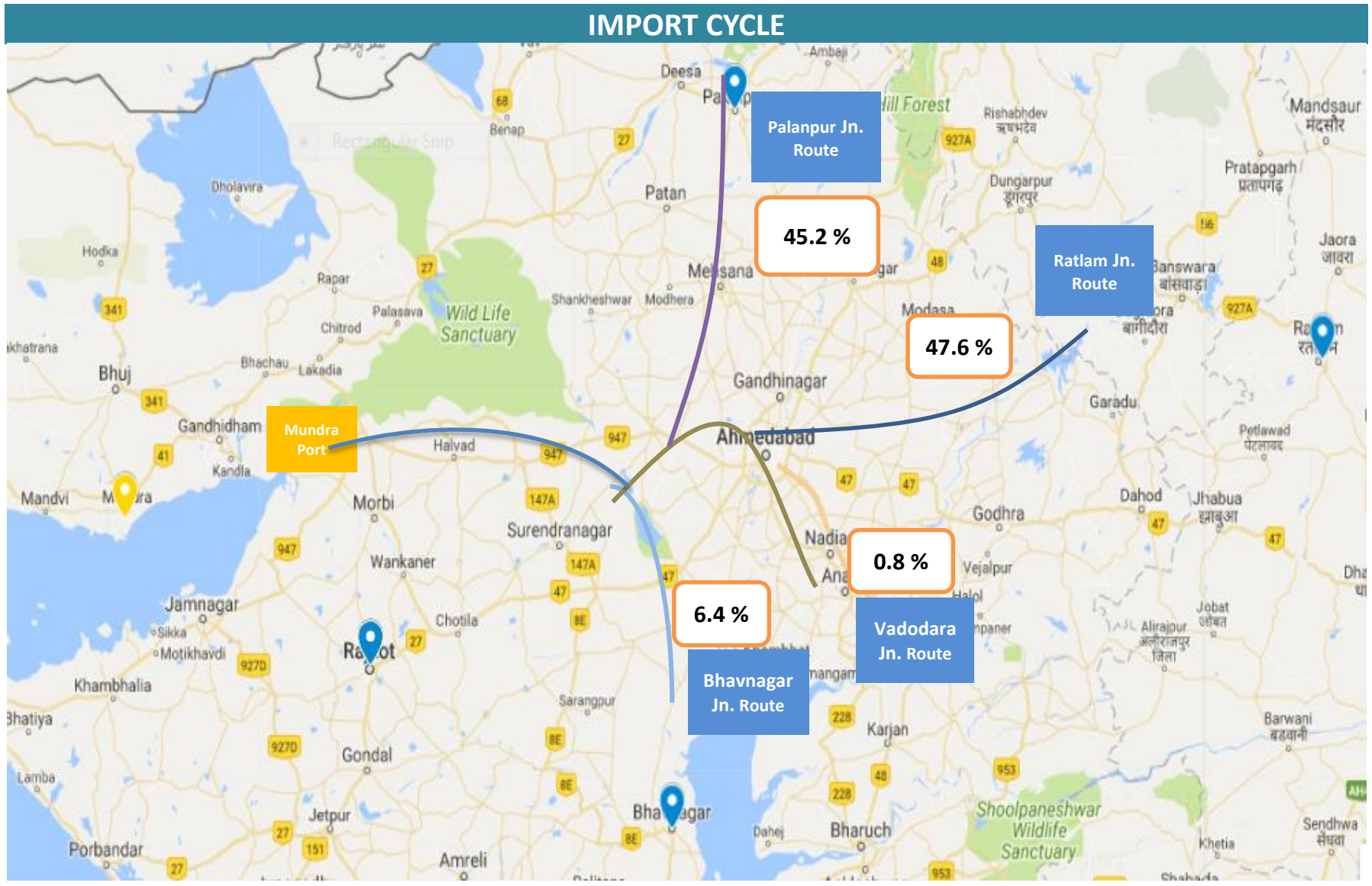




Container movement around JNPT Port terminal region via Train

Container Movement around APSEZ region via Train : IMPORT CYCLE

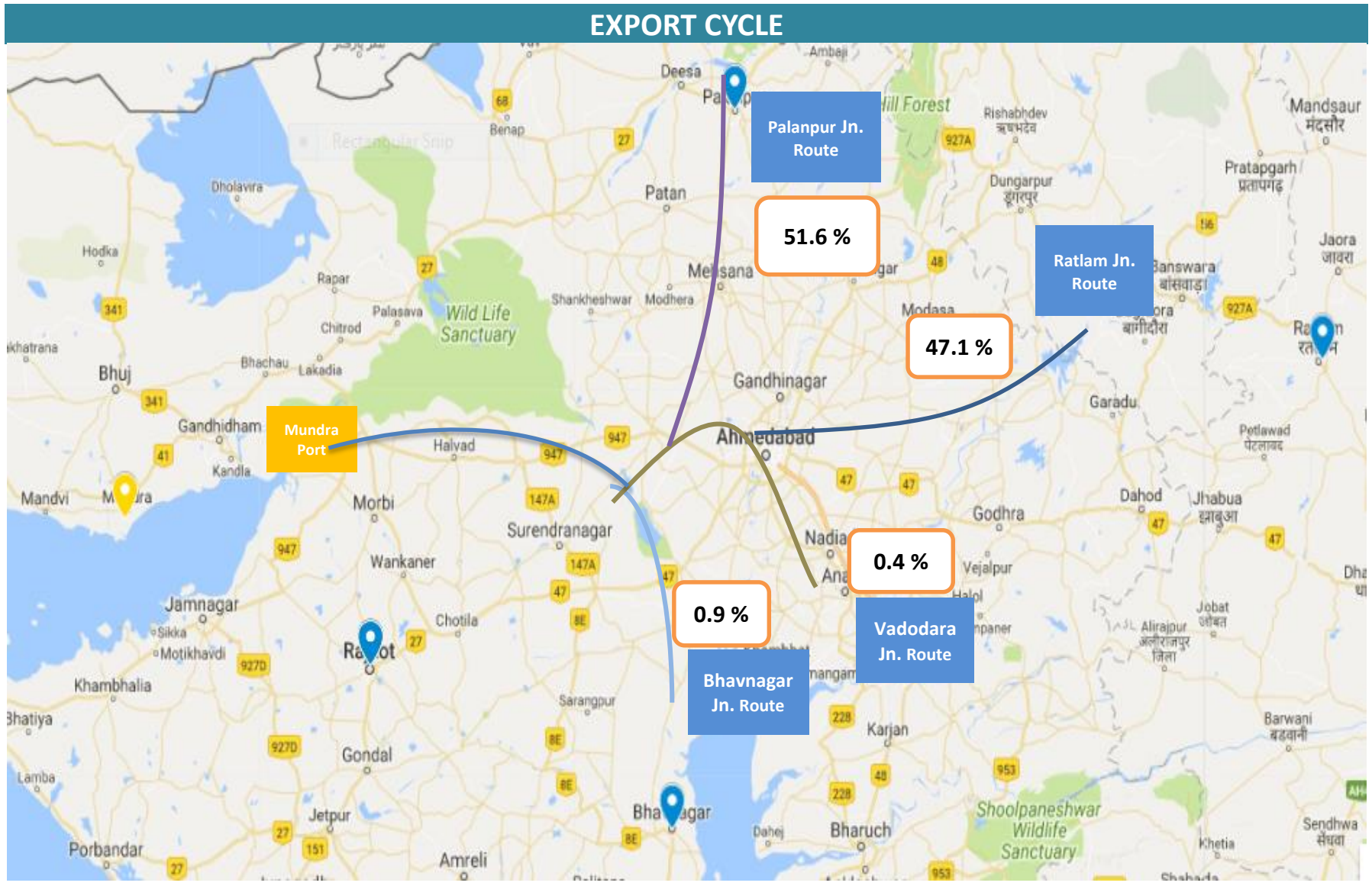
The map shows the volume wise container movement through different railway routes in import cycle for OND'17 quarter



Container movement around JNPT Port terminal region via Train

Container Movement around APSEZ region via Train : EXPORT CYCLE

The map shows the volume wise container movement through different railway routes in Export cycle for OND'17 quarter

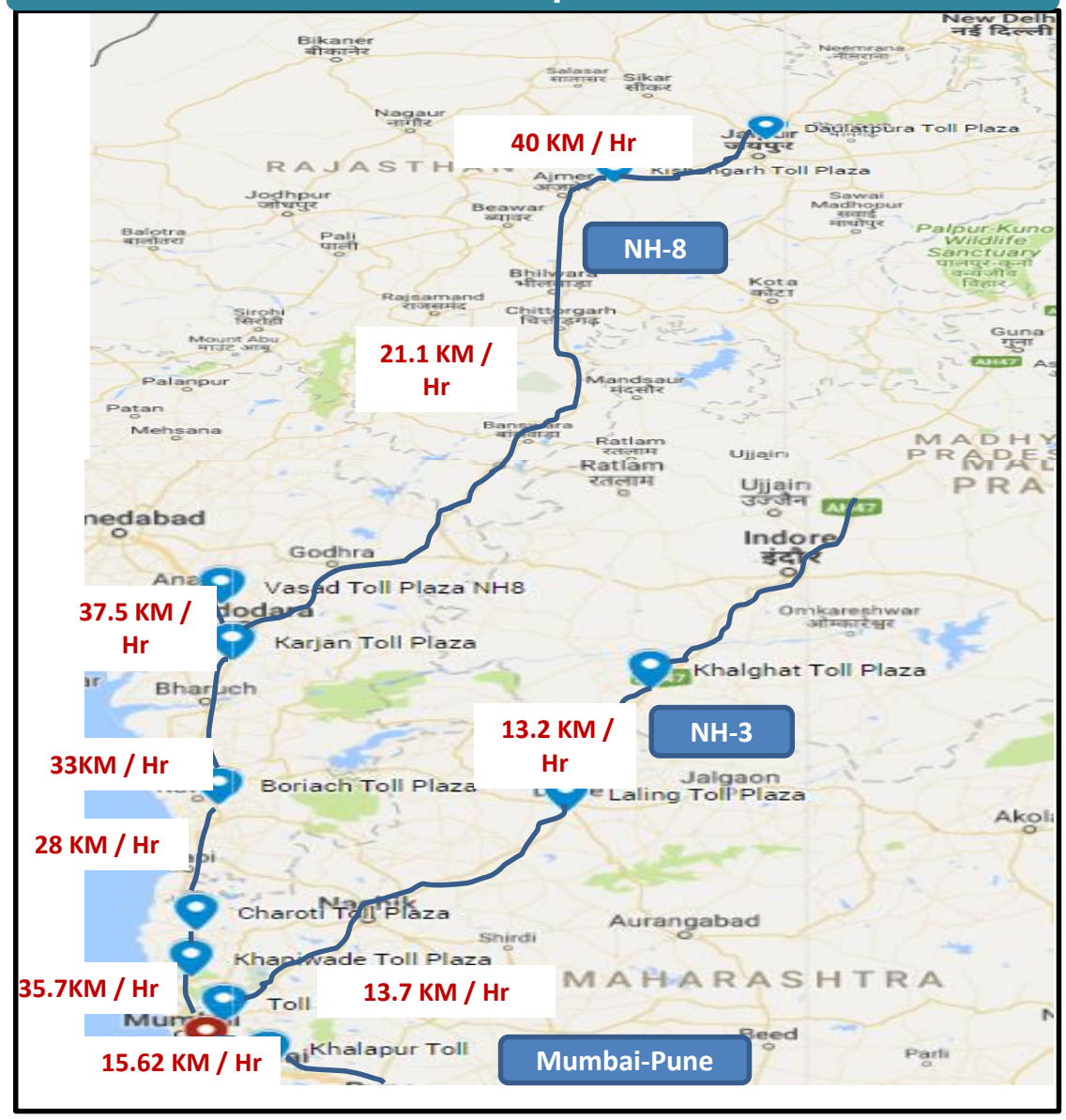


Congestion Analysis : TOLL PLAZA (1/2)

The below table shows all the toll plazas covered under DLDS connected with JNPT , the average speed has decreased between **Dhule and Khalghat** as compared to the previous quarter by **48%**

Avg. Travel Time & Speed between Toll Plazas (OND'17)					
Source	**Destination Toll Plaza**	**Inter Distance (Km)**	**Avg. Travel Time (Hr)**	**OND'17 Avg. Speed (Km/Hr)**	**JAS'17 Avg. speed (km/hr)**
JNPT	**Khaniwade**	94	6.9	13.7	**13**
JNPT	**Khalapur**	60	3.9	15.6	**18.4**
Khaniwade	**Charoti**	50	1.4	35.7	**34**
Charoti	**Boriach**	126	4.5	28	**27.8**
Boriach	**Bharthan**	142	4.3	33	**33.3**
Bharthan	**Kishangarh**	686	32.5	21.1	**23.8**
Bharthan	**Vasad**	60	1.6	37.5	**36.5**
Kishangarh	**Daulatpura**	128	3.2	40	**36.3**
Dhule	**Khalghat**	186	14	13.2	**25.3**

Map

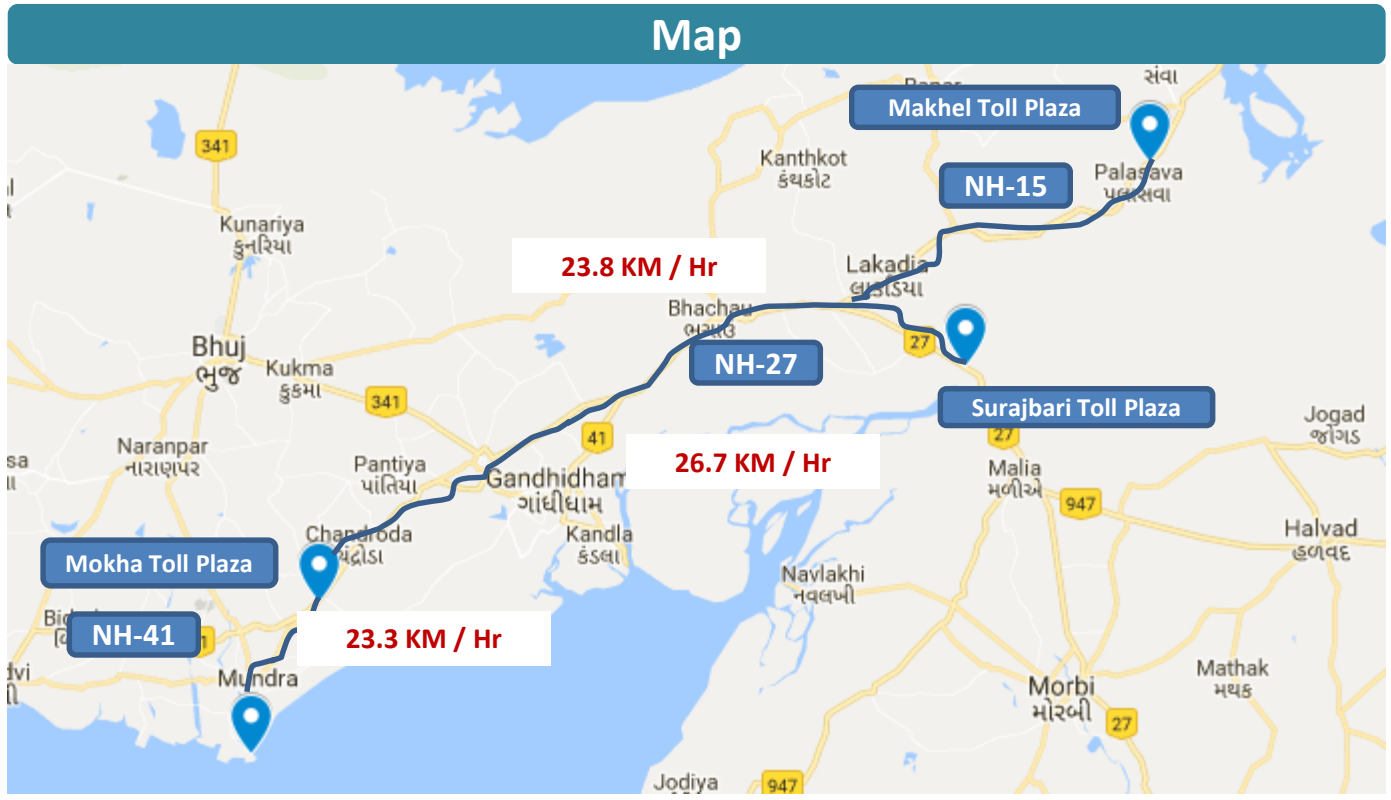


Congestion Analysis : TOLL PLAZA (2/2)

The below table shows all the toll plazas covered under DLDS in **Mundra region**.

Avg. Travel Time & Speed between Toll Plazas (OND'17)				
Source	**Destination Toll Plaza**	**Inter Distance (Km)**	**Avg. Travel Time (Hr)**	**Avg. Speed OND'17 (Km/Hr.)**
MICT	**Mokha**	28	1.2	**23.3**
Mokha	**Makhel**	150	6.3	**23.8**
Mokha	**Surajbari**	115	4.3	**26.7**

Map



Thank You !!