UNCTAD
Ad Hoc Expert Meeting on Assessing Port Performance

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Assessing Port Performance
Port Performance Indicators

by

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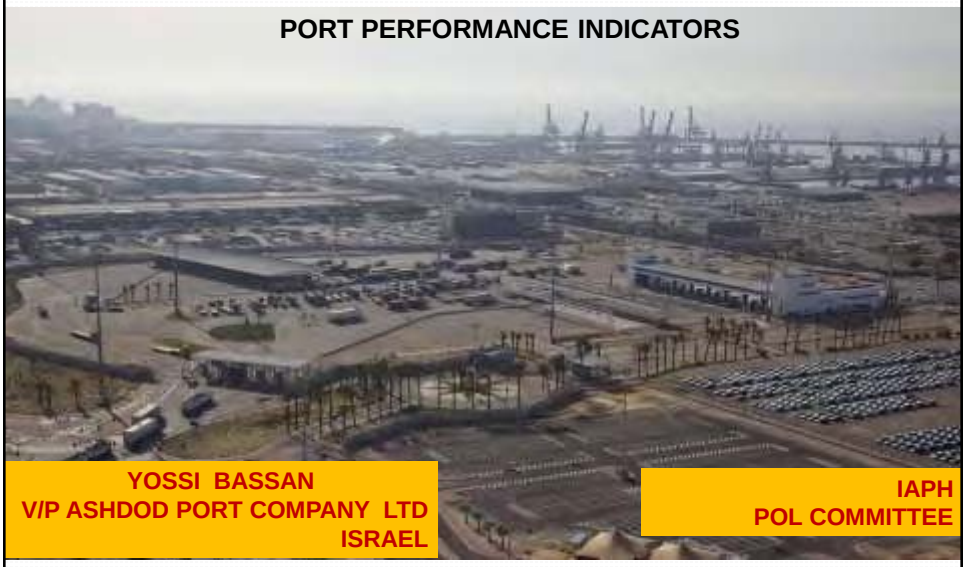
International Association of Ports and Harbors (IAPH)

UNCTAD- GENEVA DEC.2012
Assessing Port Performance

PORT PERFORMANCE INDICATORS



YOSSI BASSAN
V/P ASHDOD PORT COMPANY LTD
ISRAEL

IAPH
POL COMMITTEE

Location

Ashdod port is located in ASHDOD, about 40 km south of Tel-Aviv.

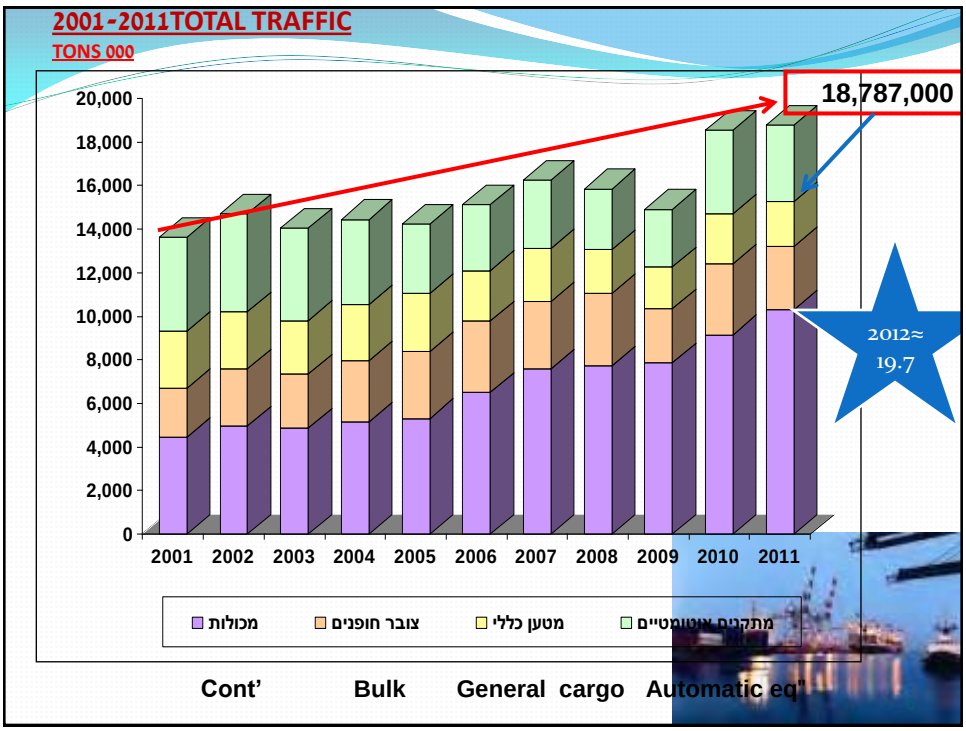
This strategic central location was determined as a result of proximity to major traffic arteries and the ability to cut short inland transportation time.

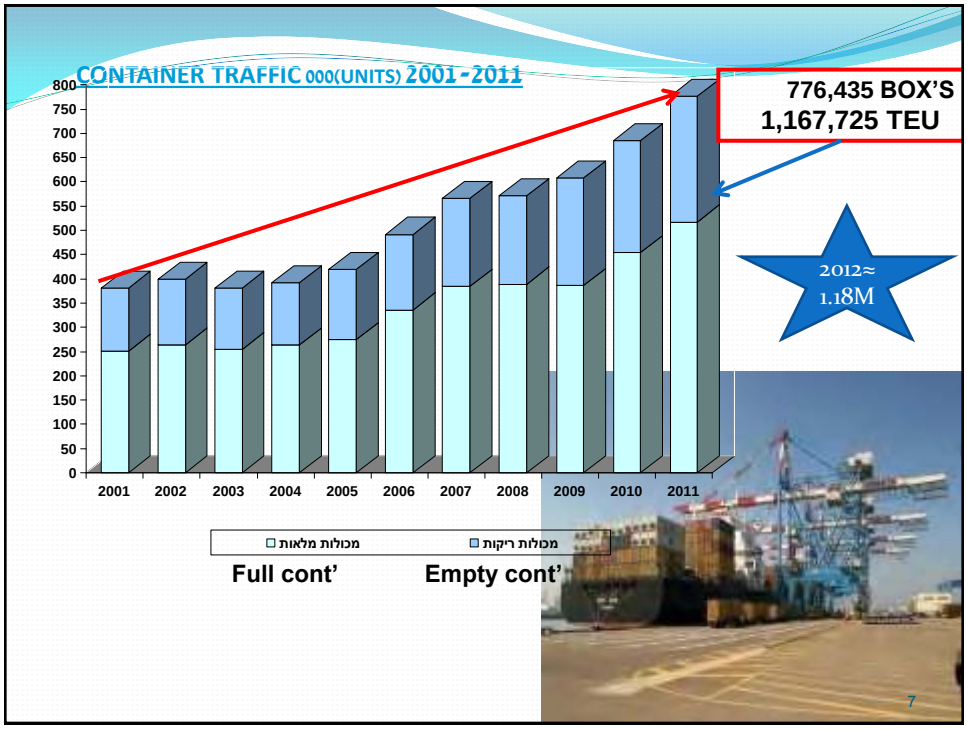
- ASHDOD PORT (2011)
- TOTAL TRAFFIC -**18,787,000 TONS**
- TOTAL CONTAINERS – **1,167,727 TEU 776,435 BOX'S,**

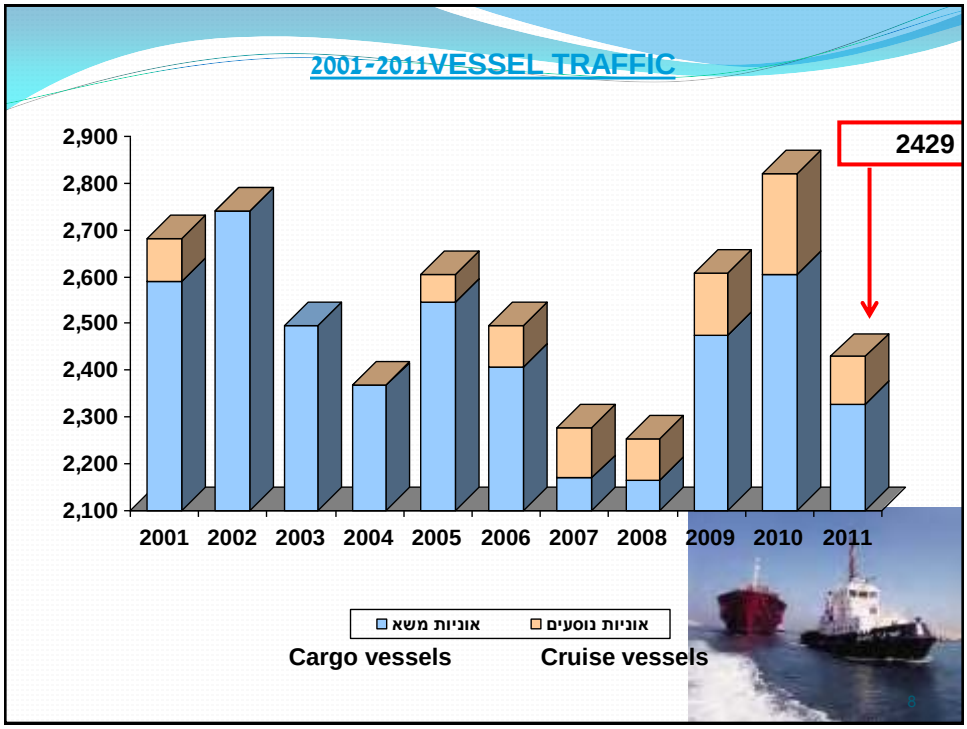
Port Equipment

Equipment	Units
S-T-S Cont. cranes	14
R-M-G	10
R-T-G	24
S-T-S G/C cranes	28
Forklifts	130
Yard trailers	83
bulldozers	20

1300 EMPLOYEES




CONTAINER TRAFFIC 000(UNITS) 2001-2011
800
750
700
650
600
550
500
450
400
350
300
250
200
150
100
50
0
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
776,435 BOX'S
1,167,725 TEU
2012≈
1.18M
מכולות מלאות
מכולות ריקות
Full cont'
Empty cont'
7


2001-2011VESSEL TRAFFIC
2,900
2,800
2,700
2,600
2,500
2,400
2,300
2,200
2,100
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2429
אוניות משא
אוניות נוסעים
Cargo vessels
Cruise vessels
8

THE PORTS SYSEM IN ISRAEL

3 PORT COMPANIES-PORT OPERATIONS COMPANIES

IPAC- THE PORTS ASSETS COMPANY

MINESTRY OF TRANSPORT-ADMINESTRATION OF SHIPPING AND PORTS - THE REGULATOR

PORT PERFOMANCE INDICATORS (PPI)

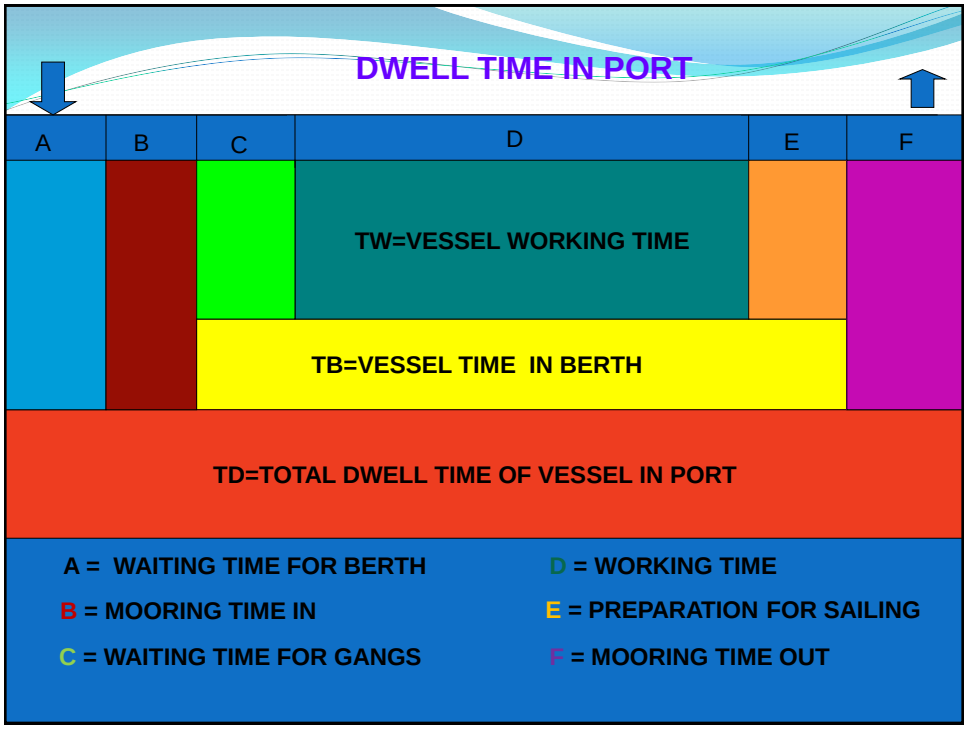
PPI is required for:

Comparing port efficiency as one of the parameters (**but** not the only one)

Commercial negotiations between port operator and shippers

As a daily management tool for evaluating operational performance

Setting a benchmark for port directors



FROM THE SHIPPING LINE (THE CUSTOMER) POINT OF VIEW

THE MOST RELEVANT AND IMPORTEND PPI IS:

THE AMOUNT OF CARGO HANDELED BETWEEN TIME OF ARRIVAL OF VESSEL AND LEAVING THE PORT(TD)

ALL WHAT HAPPENS WITHIN THIS PERIOD IS NOT THE CONCERN OF THE CUSTOMER

AVERAGE PRODUCTIVITY PER 1h DEWLLING TIME=

TOTAL TRAFFIC/TOTAL STAYING TIME OF VESSEL IN PORT

$$\frac{\sum_{i}(\text{NUNBER OF CONTAINERS EVERY SHIFT})_i}{\sum_{j}(\text{AMOUNT OF DWELL ING HOURS OF VESSEL IN PORT})_j}$$

i-All working sifts during period of examination

j-All dwelling time of ships

COMMENTS:

CONTAINER TRAFFIC MUST BE MEASURED IN BOX'S – **NOT** TEU

INDICATORS CAN BE USED FOR GENERAL CARGO AND BULK TRMINALS, AS WELL

INDICATORS CAN BE CALCULATED ON SHIFTS, DAILY, MONTHLY OR YEARLY BAISIS

ONE CAN DEVELOP INDICATORS FOR UTILIZATION OF STORAGE AREA

LIMITATION OF INDICATORS

- **WHEN COMPARING THE INDICATORS BETWEEN PORTS ATTENTION SHOULD BE DROWN TO**:

SIZE OF VESSELS CALLING THE PORT

RATIO OF FULL TO EMPETY CONTAINERS

AMOUNT OF RESHFFELLING OF CONT' IN THE VESSEL

TYPES AND MIX OF GENERAL CARGO IN COMPARITION

TYPES AND MIX OF BULK IN COMPERATION(TON/M_3)

INCREASING PERFOMENCE BY

AVOID LOOSING OF TIME DUE TO:

DICIPLINE, MAINTANCE,ORGANIZATION ,AND EXTERNAL REASONS

CHANGE TO BETTER TECHNOLOGY OF EQUIPMENT

IMPROVE HANDLING SYSTEM

ALLOCATE MORE GANGES TO VESSEL

IMPROVE INFORMATION FLOW

PPI PARCTICE IN ISRAEL

SINCE 2005 THE ISREALI PORTS BECAME, UNDER LOW, PORT COMPANIES COMPETITION
BETTWEEN PORTS IS INTENSIVE

MINESTRY OF TRANSPORT- ADMINSTATION OF PORTS AND SHIPPING IS MONITORING PORT PERFORMANCE AND PUBLISHING THE THEM EVERY YEAR

PPI IN ISRAELI PORTS

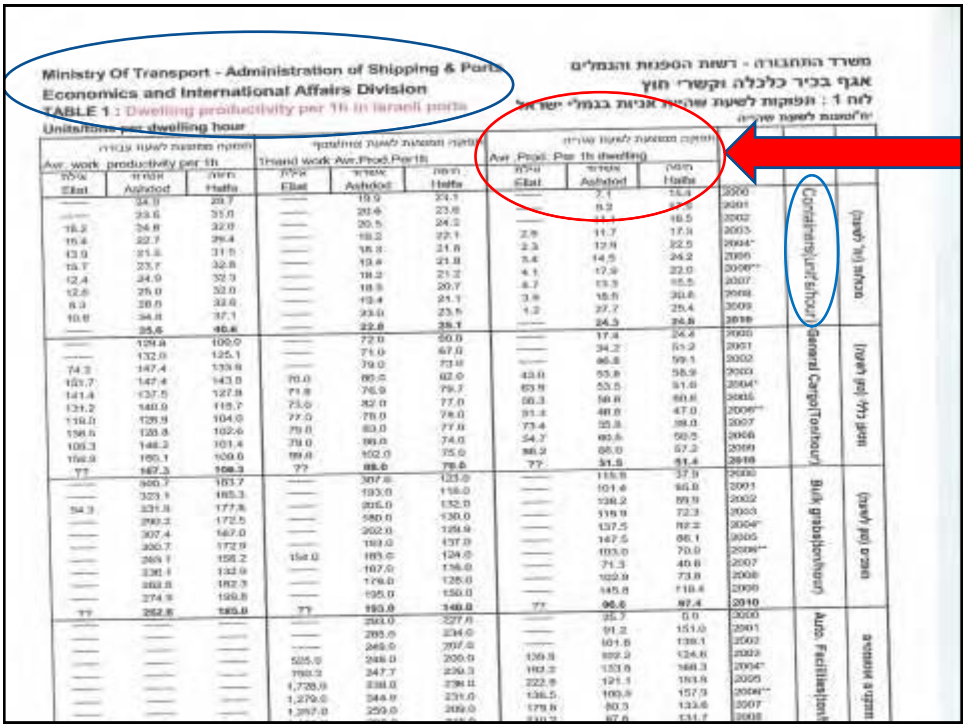
- **AVERAGE WORK PRODUCTIVITY PER 1h DWELLING=**
  TOTAL TRAFFIC/DWELL TIME OF VESSELS

AVERAGE PRODUCTIVITY PER HOUR PER GANG =

TOTAL TRAFFIC/WORKING HOUR/GANGS

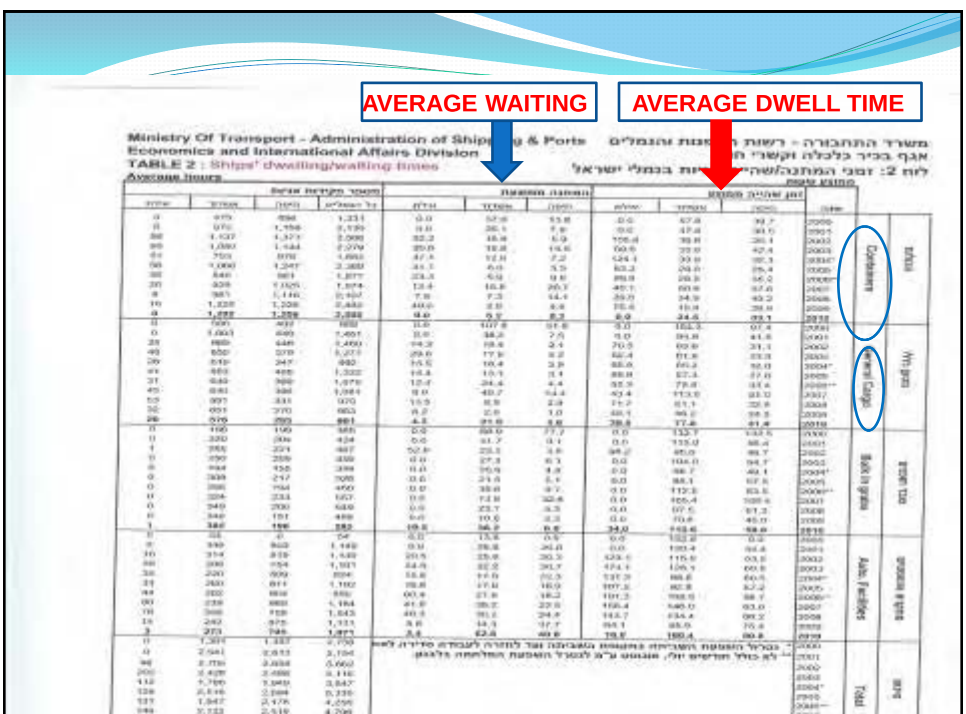
.AVERAGE PRODUCTIVITY PER ONE WORKING HOUR=

TOTAL TRAFFIC/ WORKING HOURS


Ministry Of Transport - Administration of Shipping & Ports
Economics and International Affairs Division
TABLE 1 : Dwelling productivity per 1h in Israeli ports
Units/tons per dwelling hour

משרד התחבורה - רשות הספנות והנמלים
אגף בכיר כלכלה וקשרי חוץ
לוח 1 : תפוקות לשעת שהיית אניות בנמלי ישראל

Containers(units/hour)
General Cargo(Ton/hour)
Bulk grabs(ton/hour)
Auto. Facilities(ton/h



Ministry Of Transport - Administration of Shipping & Ports
Economics and International Affairs Division
TABLE 2 : Ships' dwelling/waiting times
Average hours

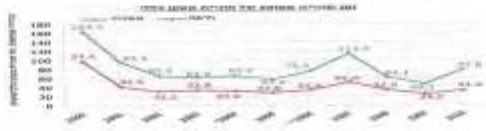
משרד התחבורה - רשות הספנות והנמלים
אגף בכיר כלכלה וקשרי חוץ
לוח 2: זמני המתנה/שהייה של אניות בנמלי ישראל

Containers
General Cargo
Bulk in grabs
Auto. Facilities
Total

AVERAGE DWELL TIME OF VESSEL IN PORT

CONTAINERS

GENERAL CARGO



BULK

IAPH –PORT OPERATION &LOGISTICS Committee
Container Terminal Productivity/Throughput Survey

SURVEY

1. Port name: _____

   Country:_____

   Do you measure container terminal productivity/throughput?
   ⁞ Yes ⁞ No

   If "NO", end of survey - thank you for your cooperation.

4. Port Container Traffic in the year……..:

   4.1 Boxes _____
   4.2 TEU's _____

5. Do you believe that productivity/throughput should be reported by different ports using a consistent formula/definition? ⁞ Yes ⁞ No

6. Would you be willing to assist in efforts to standardize the productivity/ throughput formula/definitions? ⁞ Yes ⁞ No

7. Would your port be willing to change your method of measuring productivity/throughput if a standard would be established by an IAPH task force? ⁞ Yes ⁞ No

8. **Container Productivity/Throughput** is currently measured on the following basis:

   8.1 ⁞ Boxes/crane-hour
   8.2 ⁞ Boxes/vessel-hour
   8.3 ⁞ Boxes/crane-shift

Is the container productivity/throughput calculation based solely on in-going and out-going box moves? ⁞ Yes ⁞ No

If "**NO**", please detail other types of moves included in the calculation (i.e. hatch cover moves, reshuffling of stowed boxes, etc.)

_____
_____
_____

Does the time element of the container productivity/throughput calculation • include non-productive time, such as time waiting for berthing of vessel, time waiting arrival of gangs, lashing time, pin release/closing time, labor breaks, labor delays, equipment breakdown time, etc.)?

↙ Yes ↙ No

If "**YES**", please detail types of non-productive time that are included in the time element.

_____
_____
_____
_____
_____
_____
_____
_____
_____

SURVEY

- Remarks

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____