AN ANALYSIS OF TANKER AND BULKER TON MILE DEMAND

Toby Yeabsley
tobyyeabsley@vesselsvalue.com
1. A short introduction to VesselsValue

2. What is ton mile demand?

3. How do we calculate it?

4. What does it tell us about the market for tankers and bulkers?
INTRODUCTION TO VESSELS VALUE
INTRODUCTION TO VESSELSVALUE

The Online Shipping & Offshore Market Intelligence and Valuation Service
INTRODUCTION TO VESSELSVALUE

ESTABLISHED
2010

OFFICES
London (HQ),
Isle of Wight (Data),
Stoke (Coders),
Singapore (Rep)

PEOPLE
85 (from 4 in 2010)
INTRODUCTION TO VESSELSVALUE

CLIENTS
750 logins,
360 companies,
48 countries

CLIENT TYPES
Banks, Owners, Funds,
Governments, Regulators, Lawyers

Morocco
Gibraltar
Croatia
Bulgaria
Turkey
Egypt
Lebanon
Ireland
UK
Italy
Portugal
Belgium
Netherlands
Denmark
Norway
Monaco
Switzerland
Sweden
India
China
Hong Kong
South Korea
Japan
Marshall Islands

Greece
Singapore
Indonesia
Cyprus
Israel
Qatar
Dubai
Saudi Arabia
United Arab Emirates
Abu Dhabi
Australia
Taiwan
British Virgin Islands
Canada
Bahamas
USA
Argentina
Panama
Ecuador
Brazil
France
Liberia
Nigeria
Germany
South Africa
WHAT IS TON MILE DEMAND?
Laden distance travelled

X

Amount of cargo carried for every vessel in the fleet
DISTANCE TRAVELLED

Identify vessel **JOURNEYS**

A journey is

- Picking up cargo
- Dropping off cargo
## A Vessel’s Journeys

**Alexander the Great** Ex New Paradise

- **Type**: VLCC DH DWT 298,000 BLT Mar 2010 Universal
- **Age**: 6.89 years
- **Status**: Live
- **Owner**: Crude Carriers Corp
- **Flag**: Greece

**Journeys 71**

<table>
<thead>
<tr>
<th>Laden / Ballast</th>
<th>Start</th>
<th>Duration</th>
<th>From</th>
<th>End</th>
<th>To</th>
<th>Distance Traveled</th>
<th>No. Stops</th>
<th>Uway Calc Avg Speed</th>
<th>Last Stoppage Activity</th>
<th>Map</th>
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<tbody>
<tr>
<td></td>
<td>26 Jan 17 14:04</td>
<td>19d 4h</td>
<td>Jose Petrotimin</td>
<td>14 Feb 17 18:30</td>
<td>Rizhaoi</td>
<td>2,272 NM</td>
<td>1</td>
<td>12.2 kts</td>
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<td>22d 2h</td>
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<td>1m 23d 15h</td>
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<td>5d 19h</td>
<td>Frederikshavn</td>
<td>19 Sep 16 15:57</td>
<td>Frederikshavn</td>
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<td>1</td>
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<td>21d 1h</td>
<td>Antifer</td>
<td>13 Sep 16 15:57</td>
<td>Muuga Harbour</td>
<td>1,797 NM</td>
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<td>Suspected Port L</td>
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<tr>
<td></td>
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<td>26d 10h</td>
<td>Ras Tanura</td>
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<tr>
<td></td>
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<td>17d 17h</td>
<td>Cochin</td>
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<td>Ras Tanura</td>
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<td>Qua Iboe Oil Ten</td>
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<tr>
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<td>Kin Nakagusuku</td>
<td>13 Jun 16 14:49</td>
<td>Qua Iboe Oil Ten</td>
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<td></td>
<td>30 Mar 16 14:46</td>
<td>22d 8h</td>
<td>Ras Tanura</td>
<td>21 Apr 16 23:39</td>
<td>Kin Nakagusuku</td>
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<td>12.4 kts</td>
<td>Full Discharge</td>
<td>More</td>
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</table>
# A VESSEL’S JOURNEYS

## Journeys 71

<table>
<thead>
<tr>
<th>Laden / Ballast</th>
<th>Start</th>
<th>Duration</th>
<th>From</th>
<th>End</th>
<th>To</th>
<th>Distance Traveled</th>
<th>No. Stops</th>
<th>Uway Calc Avg Speed</th>
<th>Last Stoppage Activity</th>
<th>Map</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>26 Jan 17 14:04</td>
<td>19d 4h</td>
<td>Jose Petrotermin</td>
<td>14 Feb 17 18:30</td>
<td>Rizhau</td>
<td>2.272 NM</td>
<td>1</td>
<td>12.2 kts</td>
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<td>More</td>
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<tr>
<td></td>
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<td>22d 2h</td>
<td>Antifer</td>
<td>26 Jan 17 14:04</td>
<td>Jose Petrotermin</td>
<td>4.412 NM</td>
<td>2</td>
<td>12.7 kts</td>
<td>Full Load</td>
<td>More</td>
</tr>
</tbody>
</table>

### Journey Stats
- **Total distance (NM):** 4,412 NM
- **Ton-mile (8n DWT-NM):** N/A
- **Duration:** 22d 2h
- **Uway time:** 14d 6h
- **Uway calc avg speed (knots):** 12.7 kts
- **Time at start port:** 3d 11h
- **Time at end port:** <1h
- **No. of stoppages:** 2
- **Commodity:** Coming soon

![Map of voyage routes](image)
IDENTIFYING JOURNEYS

Not so easy, many complications:

**Issue**
- AIS draft reporting not good enough to accurately identify laden/ballast status

**Resolution**
- Use *stoppages* + load/discharge port data + clever algorithms
Identifying cargo related **stoppages** critical but not easy

Complications from Stopping for:

- Bunkering
- Surveys
- Drydockining
- Waiting / idling
- Multiple discharges
- Transhipments
### Drydock

<table>
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<tr>
<th>Start</th>
<th>End</th>
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</thead>
<tbody>
<tr>
<td>13 Mar 2015 09:52</td>
<td>22 Mar 2015 02:56</td>
<td>8d 17h</td>
<td>Yard: Keppel Fels, Singapore</td>
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</table>

### Idle / layup

Idle / laid up for: at least [ ] 1 days

<table>
<thead>
<tr>
<th>Start</th>
<th>End</th>
<th>Duration</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>13 Aug 2015 06:46</td>
<td>20 Aug 2015 15:38</td>
<td>7d 8h</td>
<td>Anchorage: Singapore</td>
</tr>
<tr>
<td>24 Sep 2014 06:44</td>
<td>1 Oct 2014 18:50</td>
<td>7d 12h</td>
<td>Anchorage: Fujairah, Khor Fakkan</td>
</tr>
</tbody>
</table>

### In Bunkering Zone

In bunkering zone for: no more than [ ] 1 days

<table>
<thead>
<tr>
<th>Start</th>
<th>End</th>
<th>Duration</th>
<th>Location</th>
<th>Journey From</th>
<th>Journey To</th>
<th>Distance Traveled Since Previous</th>
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<tbody>
<tr>
<td>9 Nov 2016 13:01</td>
<td>10 Nov 2016 01:54</td>
<td>12h</td>
<td>Anchorage: Singapore</td>
<td>Tanjung Bin</td>
<td>Singapore</td>
<td>42,376 NM</td>
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<tr>
<td>17 Jan 2016 19:25</td>
<td>18 Jan 2016 00:25</td>
<td>5h</td>
<td>Anchorage: Europoort, Rotterdam, M</td>
<td>Europoort</td>
<td>Europoort</td>
<td>69 NM</td>
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</table>
## Stoppages 180

<table>
<thead>
<tr>
<th>First Position Time</th>
<th>Last Position Time</th>
<th>Duration</th>
<th>Location</th>
<th>Polygon Type</th>
<th>Draft Change</th>
<th>Status (Best Guess)</th>
<th>Since Prev Stop</th>
<th>Travelled Since Prev Stop</th>
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<tbody>
<tr>
<td>8 Jan 2017 15:21</td>
<td>9 Jan 2017 07:39</td>
<td>16h</td>
<td>Flushing</td>
<td>Port</td>
<td>-</td>
<td>Idle (12h)</td>
<td>16h</td>
<td>212.1 NM</td>
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<td>7 Jan 2017 22:27</td>
<td>3d 13h</td>
<td>Antifer</td>
<td>Port</td>
<td>-</td>
<td>Full Discharge</td>
<td>2h</td>
<td>17.3 NM</td>
</tr>
<tr>
<td>3 Jan 2017 14:31</td>
<td>4 Jan 2017 06:50</td>
<td>16h</td>
<td>Le Havre</td>
<td>Anchorage</td>
<td>-</td>
<td>Waiting to Discharge</td>
<td>27d 10h</td>
<td>8,734.9 NM</td>
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<tr>
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<td>29 Nov 2016 10:27</td>
<td>22h</td>
<td>Khor Fakkan</td>
<td>Anchorage</td>
<td>-</td>
<td>Idle (12h)</td>
<td>15d 20h</td>
<td>4,360.7 NM</td>
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<tr>
<td>11 Nov 2016 15:49</td>
<td>12 Nov 2016 14:57</td>
<td>23h</td>
<td>Singapore</td>
<td>Anchorage</td>
<td>-</td>
<td>Full Load</td>
<td>1h</td>
<td>7.0 NM</td>
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<tr>
<td>10 Nov 2016 03:08</td>
<td>11 Nov 2016 14:43</td>
<td>1d 11h</td>
<td>Singapore</td>
<td>Port</td>
<td>-</td>
<td>Idle (1d)</td>
<td>1h</td>
<td>8.3 NM</td>
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<tr>
<td>9 Nov 2016 13:01</td>
<td>10 Nov 2016 01:54</td>
<td>12h</td>
<td>Singapore</td>
<td>Anchorage</td>
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<td>In Bunkering Zone</td>
<td>4h</td>
<td>47.0 NM</td>
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<td>9 Nov 2016 08:38</td>
<td>5d 1h</td>
<td>Tanjung Bin</td>
<td>Anchorage</td>
<td>Discharged</td>
<td>Full Discharge</td>
<td>≤1h</td>
<td>0.0 NM</td>
</tr>
<tr>
<td>19 Sep 2016 11:23</td>
<td>24 Sep 2016 23:46</td>
<td>5d 12h</td>
<td>Frederikshavn</td>
<td>Anchorage</td>
<td>Loaded</td>
<td>Full Load</td>
<td>2d 16h</td>
<td>832.9 NM</td>
</tr>
<tr>
<td>13 Sep 2016 15:57</td>
<td>16 Sep 2016 19:18</td>
<td>3d 3h</td>
<td>Muuga Harbour</td>
<td>Port</td>
<td>Loaded</td>
<td>Part Load at Port</td>
<td>7d 3h</td>
<td>1,564.3 NM</td>
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<tr>
<td>2 Sep 2016 08:23</td>
<td>6 Sep 2016 12:08</td>
<td>4d 3h</td>
<td>Portland</td>
<td>Anchorage</td>
<td>-</td>
<td>Idle (3d)</td>
<td>6h</td>
<td>65.1 NM</td>
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<tr>
<td>29 Aug 2016 14:13</td>
<td>2 Sep 2016 01:53</td>
<td>3d 11h</td>
<td>Southampton</td>
<td>Anchorage</td>
<td>-</td>
<td>Idle (3d)</td>
<td>2h</td>
<td>24.1 NM</td>
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<tr>
<td>27 Aug 2016 20:13</td>
<td>29 Aug 2016 01:53</td>
<td>1d 15h</td>
<td>Fawley</td>
<td>Port</td>
<td>Discharged</td>
<td>Part Discharge at Po</td>
<td>3h</td>
<td>28.6 NM</td>
</tr>
<tr>
<td>26 Aug 2016 13:27</td>
<td>27 Aug 2016 16:42</td>
<td>1d 3h</td>
<td>Southampton</td>
<td>Anchorage</td>
<td>-</td>
<td>Idle (1d)</td>
<td>7h</td>
<td>78.6 NM</td>
</tr>
<tr>
<td>23 Aug 2016 14:52</td>
<td>26 Aug 2016 06:03</td>
<td>2d 15h</td>
<td>Antifer</td>
<td>Port</td>
<td>Discharged</td>
<td>Full Discharge</td>
<td>10d 7h</td>
<td>3,035.1 NM</td>
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<tr>
<td>13 Aug 2016 07:17</td>
<td>13 Aug 2016 07:31</td>
<td>≤1h</td>
<td>Sidi Kerir</td>
<td>Port</td>
<td>Loaded</td>
<td>Awaiting Transit</td>
<td>2d 6h</td>
<td>287.5 NM</td>
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</table>
Stoppage Heatmap

All stoppages between 1 Jan 2012 and 10 Jan 2017

[Image of a world map with heatspots indicating vessel stoppages.]
TON MILE DEMAND BY COMPANY

- Capital Maritime and Trading [Greece]
- Crude Carriers Corp [Greece]
TON MILE DEMAND BY ANY GROUPING YOU WANT

Ship Type: CAPESIZE
Build Year: 2007
Company Country: China

Ton Miles

Month: Jan '12 to Dec '16
Zoom: 1Y, 2Y, 5Y, All
## COUNTRY TO COUNTRY

<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
<th>Ton Miles (bn DWT-NM)</th>
<th>Average Uway Speed</th>
<th>Total Distance</th>
<th>Vessels</th>
<th>Journeys</th>
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<tbody>
<tr>
<td>(Total)</td>
<td>(Total)</td>
<td>994.28</td>
<td>12.06 kts</td>
<td>16,620,760.61 NM</td>
<td>515</td>
<td>3,401</td>
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<tr>
<td>United States of America</td>
<td>China</td>
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<td>12.24 kts</td>
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<td>45</td>
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<td>Brazil</td>
<td>China</td>
<td>21.95</td>
<td>11.60 kts</td>
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<td>30</td>
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<td>United States of America</td>
<td>India</td>
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<td>11.77 kts</td>
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<td>29</td>
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<td>India</td>
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<td>11.88 kts</td>
<td>288,782.71 NM</td>
<td>73</td>
<td>87</td>
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<tr>
<td>India</td>
<td>China</td>
<td>16.65</td>
<td>11.92 kts</td>
<td>280,100.59 NM</td>
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### Export Table

<table>
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<tr>
<th>From</th>
<th>To</th>
<th>Ton Miles (bn DWT-NM)</th>
<th>Average Uway Speed</th>
<th>Total Distance</th>
<th>Vessels</th>
<th>Journeys</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Total)</td>
<td>(Total)</td>
<td>994.41</td>
<td>12.06 kts</td>
<td>16,620,760.61 NM</td>
<td>515</td>
<td>3,401</td>
</tr>
<tr>
<td>Santos</td>
<td>Chittagong</td>
<td>7.76</td>
<td>11.97 kts</td>
<td>130,514.60 NM</td>
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<td>14</td>
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<tr>
<td>Port Elizabeth</td>
<td>Tianjin Xingang</td>
<td>6.39</td>
<td>12.27 kts</td>
<td>107,923.25 NM</td>
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<td>13</td>
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<tr>
<td>San Lorenzo</td>
<td>Damietta</td>
<td>6.19</td>
<td>12.70 kts</td>
<td>105,144.74 NM</td>
<td>14</td>
<td>14</td>
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<tr>
<td>Santos</td>
<td>Kandla</td>
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<td>11.31 kts</td>
<td>68,121.05 NM</td>
<td>8</td>
<td>8</td>
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<tr>
<td>Nantong</td>
<td>Mombasa</td>
<td>3.46</td>
<td>13.23 kts</td>
<td>58,545.83 NM</td>
<td>9</td>
<td>9</td>
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</tbody>
</table>
HISTORICAL DEMAND VS SUPPLY
(HELPS BUYING / SELLING DECISIONS)
Demand is growing but so is the fleet

Strong seasonality
TRADING ROUTE EVOLUTION
(HELPS OPERATIONAL DECISIONS)
PANAMAX BULKERS GRAIN TRADE INTO CHINA

Australia - India
Australia - China
China - China
Brazil - China
USA - China
USA PRODUCT TANKER TRADE

USA Product Tanker Ton Mile Demand Growth by Quarter

- Domestic Trade
- Non Domestic Exports
- Non Domestic Imports
WHO IS IMPORTING IRANIAN CRUDE?

- China 105
- Iran 64
- India 85
- UAE 58
- Turkey 38
- Japan 31
- Singapore 26
- Italy 15
- Greece 14
- Spain 13
- Malaysia 9
- NL 8
- EG 6
- QA 6
- TW 5
- Syria 10
- Others 1
SUMMARY

VV Trade

The ton mile demand and vessel trade tool for Bulkers and Tankers.

- Start at vessel level
- Automatically identify journeys
- Calculate all ton miles
- Analyse any group

Operator Intelligence  

Investor Intelligence

Companies, Fleets, Regions, Global