

TSUG

Transport Statistics Users Group

Monthly Review: September 2018

This month's review shows that over the last 45 years, the average distance travelled by each person has increased but the number of trips and time spent travelling have remained much the same. In New York City, Tourism continued to grow, with 12m more tourists in 2016 than 2010. The city of London is on a mission to make walking as convenient as possible, using smarter traffic signals that reduce wait times for pedestrians. In London, walk time to rail is 6 minutes 55 seconds: walk time from is 6 minutes 56 seconds: for car, the times are 1 minute 16 seconds and 1 minute 20 seconds. The similarity looks odd. German Rail (DB) recorded a 17.4% drop in Ebit to €974m during the first half of 2018. In the half-year, Getlink carried 845,000 lorries (probably a record), 1.1631m cars (ditto – it carried 1.1627m in the first half of 2016), 27,300 coaches (probably the lowest figure since 2002). The use of light rail and tram in England showed a decrease of 0.2% in 2016/7, the first decrease since 2009/10. Between 2007 and 2017, total rail freight transport in the Netherlands rose by 0.5 million tonnes to 41.2 million tonnes. In US railroads, more than 300 times last year, people walked onto railroad tracks to intentionally put themselves in the path of a train — and in 266 cases they successfully committed suicide. Between April 2017 and March 2018, Virgin Trains carried more than 2.2m passengers between the West Midlands and London, which is 4.6% up on the previous 12 months. The global air passenger traffic growth remained strong in April with a 6.1% increase year-on-year, just below its 12-months rolling average of 6.5%. The Singapore-US market will be served with 41 nonstop flights in December 2018, compared to 21 currently. JetBlue's Q2, 2018 figures, showed revenue at \$6737m: this is the highest since Q4, 2015, the same being true of revenue passenger miles, available seat miles and passenger numbers. Industry-wide revenue passenger kilometres increased by 7.8% year-on-year in June, up from 6.0% in April. Vehicle occupancy in all categories of trip purpose is down on 2002. In the US, 811 people were killed in crashes caused by red light runners in 2016, PANYNJ's cargo volumes set a new record in the first half of 2018, with volume up 6.8% over the same period last year. A rule requiring large ships to cut the air pollution they produce threatens to drive benchmark oil prices as high as \$200 a barrel, send prices at the pump soaring to \$6 or even \$10 a gallon and crash the global economy just 17 months from now according to one source. In Members' Forum, we have Message for the Chairman – A Request for Help, Letter to Simon Lister, TSUG and Letter to the Editor. We also have Kit Mitchell's Statistics Digest.

Dr Shanta Bir Singh Tuladhar and Andrew Sharp

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Dates of the next TSUG Seminars

Date	Venue	Topic
Wed-17-Oct	TfL	Encouraging and Monitoring Cycling: Superhighways, Innovative Infrastructure and Unreported Casualties

Seminars can be booked through the TSUG website at www.tsug.org.uk/seminars.php

Statistics Digest

STATISTICS DIGEST August 2018

This digest lists major sets of statistics that have been released recently or which are due to be released. Regular monthly and quarterly releases are not included. The web links given allow free downloads of the documents cited.

Recent releases from Department for Transport

Recent releases from Department for Transport	
2 Aug 2018	Renewable Transport Fuel Obligation: Year 10 (2017 to 2018) report 4 (15 April 2017 to 14 April 2018 supply) https://www.gov.uk/government/statistics/biofuel-statistics-year-10-2017-to-2018-report-4
9 August	Reported Road Casualties in Great Britain: final estimates involving illegal alcohol levels: 2016 https://www.gov.uk/government/statistics/reported-road-casualties-in-great-britain-final-estimates-involving-illegal-alcohol-levels-2016
16 August	Road goods vehicles travelling to Europe: July 2017 to June 2018 https://www.gov.uk/government/statistics/road-goods-vehicles-travelling-to-europe-july-2017-to-june-2018
22 August	Port freight statistics: 2017 final figures https://www.gov.uk/government/statistics/port-freight-statistics-2017-final-figures
22 August	Domestic waterborne freight: 2017 https://www.gov.uk/government/statistics/domestic-waterborne-freight-2017
30 August	Walking and cycling statistics, England: 2017 https://www.gov.uk/government/collections/walking-and-cycling-statistics

Forthcoming releases from Department for Transport	
20 Sept	Provisional road traffic estimates, Great Britain: July 2017 to June 2018 https://www.gov.uk/government/collections/road-traffic-statistics
20 Sept	Travel time measures for the Strategic Road Network and local 'A' roads: July 2017 to June 2018 https://www.gov.uk/government/collections/road-congestion-and-reliability-statistics
September	Reported road casualties Great Britain, annual report: 2017
September	Reported road casualties Great Britain, provisional estimates: year ending June 2018
September	Reported road casualties Great Britain, main results: 2017 https://www.gov.uk/government/collections/road-accidents-and-safety-statistics
September	Vehicle speed compliance statistics for Great Britain: 2017 https://www.gov.uk/government/collections/speeds-statistics
October	Reported road casualties Great Britain, provisional estimates: year ending June 2018 https://www.gov.uk/government/collections/road-accidents-and-safety-statistics

October	Road freight statistics: April 2017 to March 2018
https://www.gov.uk/government/collections/road-freight-domestic-and-international-statistics	
October	Taxi and private hire vehicle statistics, England and Wales
https://www.gov.uk/government/collections/taxi-statistics	

Recent release from Office for National Statistics

21 August	Developing new statistics of infrastructure: August 2018
https://www.ons.gov.uk/economy/economicoutputandproductivity/productivitymeasures/articles/developingnewmeasuresofinfrastructureinvestment/augusy2018	
17 August	Travel Trends 2017
https://www.ons.gov.uk/peoplepopulationandcommunity/leisureandtourism/articles/traveltrends/2017	
12 August	Living longer - how our population is changing and why it matters
https://www.ons.gov.uk/releases/livinglongerhowourpopulationischangingandwhyitmatters	
7 August	Internet access and use in Great Britain: 2018
https://www.ons.gov.uk/releases/internetaccessanduseingreatbritain2018	

Recent release from Eurostat

2 July	Luxembourg - most cars per inhabitant in the EU (car ownership in EU in 2016)
http://ec.europa.eu/eurostat/web/products-eurostat-news/-/WDN-20180702-1?inheritRedirect=true&redirect=%2Feurostat%2Fweb%2Ftransport%2Fpublications	

Members can find past seminar slides here: http://www.tsug.org.uk/past_seminars.php

Members' Forum

Message for the Chairman – A Request for Help

We are currently arranging the programme for this year and details will be announced as they become available. The seminar on investment appraisal is now a joint seminar with Local Transport Today and we should have a number of reduced cost places which will be advertised. We are also planning to arrange a normal style seminar (free to members) on the topic later in the year.

It is clear that the Group is in need of help to make it run efficiently. There is currently a very small group of volunteers who do an excellent task with the administration, organising seminars, publishing the review and so on. However we are few in number and it is obvious to me that the Group is getting a bit stale. Membership numbers are gradually declining. It is clear that we need new blood to re-invigorate ourselves. The roles that are required are:

- Marketing – right now we are not attracting many new members. We need someone to sell ourselves and reverse this trend.
- Programme – we need people with fresh ideas who are happy to think up ideas for seminars, have contacts and are happy to organise them.
- Regional representatives. I am acutely aware that we are very London centric and I would like to see a series of seminars held in the regions. This would clearly broaden our appeal.

- Administration – the task of treasurer, invoicing, ensuring that distribution lists are up to date and the like is all done by myself. It would be great if these tasks could be spread around.
- We would also like to create the position of President. I see my role (until someone replaces me) as primarily administrative. We would like someone with a high profile in the profession to act as ambassador and also to provide strategic leadership.

You might like to volunteer either to join the committee or just to help out and arrange the odd seminar. The amount of work need not be that high (arranging a seminar might only take a few hours) and can be very satisfying. An organisation such as TSUG is only as strong as those running it make it.

Peter Gordon
Chairman, TSUG

Letter to Simon Lister, TSUG

Update on Andrew Evans accident statistics

Dear Colleague

This is to let you know that I have produced my annual statistical analyses of fatal train accidents in Great Britain and in Europe for the years ending in 2017.

The paper “Fatal train accidents on Britain’s main line railways: end of 2017 analysis” can be downloaded from:

<https://imperialcollegelondon.app.box.com/s/p7p47gtsymqivkzv2wzbd899qn8oli9h>

The paper “Fatal train accidents on Europe’s railways: 1980-2017” can be downloaded from:

<https://imperialcollegelondon.app.box.com/s/22qxiskjd8x7my59nhimstcp8hw81m67>

Feel free to forward this email and the links to any of your colleagues. I would welcome any feedback. Let me know if anyone would like to be added to the mailing list for these papers.

Kind regards
Andrew Evans
Emeritus Professor
Imperial College London

Summary of “Fatal train accidents on Britain’s main line railways: end of 2017 analysis”

PS: Andrew Evans has accepted an invitation to speak at our seminar next April - **Editor**

Letter to the Editor

As per my email just now to your tsug address – this is the note which was supposed to be in the newsletter – not the personal email I sent to you as editors.

This needs correcting immediately please
Ian

Hi Shanta,

If you could publish the following as a short response to the previous letter I would be grateful. Bethan (can you check you are happy by close)

We welcome user feedback on DfT Statistics in whatever form we get it as one of the key ways in which we can seek to improve the outputs and services our users receive. However, in the case of the letter published in the previous newsletter on Journey Times Statistics, we also need to ensure users are getting factually accurate information. There are three points we want to correct to ensure users are aware:

- The letter stated that the methodology change was recently made, when in fact it was introduced in the 2014 statistics. This is clear in each of our releases.
- The letter also stated that the change was due to cost cutting. This is not the case.
- The letter also stated that the methodology change was hidden in the small print. In fact this is covered in background notes and in the technical guidance in detail, and in the main release we are very clear that you cannot make comparisons with data before 2014 due to the change in methodology.

Thanks for giving us the opportunity to make users aware of these points.

If users have queries on this or any other statistical output, please contact the relevant team via the contact information available on the release.

Kind regards,
Ian

Ian Knowles
Head of Profession for Statistics
Department for Transport'

General News

National Travel Survey: England 2017

DfT published this statistical release at the end of July.

Under the heading "Long term trends" it points out that, over the last 45 years, the average distance travelled by each person has increased but the number of trips and time spent travelling have remained much the same.

Since the 1970s, the number of trips has increased by 2% (from 956 to 975): the number of hours travelled has increased by 7% from 353 to 377 in 2017 (about an hour a day). But the average distance travelled has increased by 47%, from 4476 in 1972/3 to 6580 in 2017. Note that the 1972/3 figures are for Great Britain while those for 2017 are for England only.

In the short term, while the number of trips and the distance travelled steadily decreased from the late 1990s, these statistics both show an increase from 2015. For example the number of trips increased by 2% between 2016 and 2017. This may have been affected by the change in the way short walk data are collected.

On average, people spent about an hour a day travelling in 2017 – including 36 minutes by car and 12 minutes walking. Since 2002, much of the fall in trip numbers has resulted from fewer car trips (the 2017 figure for both car trips and car miles is 12% less than that for 2002). Yearly household mileage for cars (and the question specifically excludes vans) was 15% lower in 2017 than 2002 (9200 miles to 7800 miles/car/household). Of that, 800 miles is the average decrease in business miles.

Surface rail trips have increased by 56% since 2002 to 21: trips on buses outside London decreased by 19% (46 to 37) over the same period. On average, people travelled 558 miles by surface rail in 2017, 28% up on 2002. Miles travelled/person on London buses increased to 78, 20% up on 2002. On local buses outside London, it decreased by 15% to 180 miles/year.

The tables of trips by purpose and miles by purpose show that all purposes have declined since 2002 – for example shopping from 222 to 189/person/year, commuting 164 to 144, commuting 1400 miles/year to 1309, shopping 906 miles to 738.

New York City Mobility Report



This was published by the New York City Department of Transportation in June.

Population of the city is up by 4% since 2010 and continues to climb. Employment is up by 2.4% since 2015. Tourism continued to grow, with 12m more tourists in 2016 than 2010.

Subway ridership is 9.5% higher than in 2010 – although off-peak ridership was down. Bus

New York Subway at Queensborough Plaza

ridership has dropped in every year since 2010 except 2013. Cycling is up 84% on 2010: ferry ridership is up 12% since 2010.

The number of cars entering Manhattan south of 60th Street has dropped in 2016, to 717,000/day. It was 776,000/day in 2010, and has dropped steadily.

Cab trips are down 25% since 2010, but this was offset by the all-time high number of rides on app-based for-hire vehicles (92.5m in 2016). The number of for-hire vehicles has more than doubled since 2010.

Household vehicle registrations were up 8.3% on 2010.

City-wide travel speed is down 0.4% on 2015 and 2.6% down on 2010. In the Manhattan CBD, average taxi speeds are down from 9.1 mile/h in 2010 to 7.1 mile/h in 2017: in the mid-town core, figures are 6.4 mile/h and 5.0 mile/h.

A new piece of transit infrastructure is the Second Avenue Subway, on the east side of northern Manhattan. Passengers were asked their previous mode of transport: 82% had moved from a less convenient subway route: most of the rest had used bus. Citywide yellow cab ridership dropped by 11% on 2013: in the Upper East Side, a beneficiary of the new line, they dropped 36%. For ride-hail services like Uber and Lyft, ridership citywide was up 63% between 2016 and 2017. In Manhattan it was up 42%: in the Upper East Side, 35%. Traffic speeds on 2nd Avenue were up from 7.2 mile/h in 2016 to 7.6 mile/h in 2017 and 7.8 mile/h in 2018.

Ride-hail services are most commonly used for social and recreational trips, although 27% of respondents said they used them for commuting at some point. 50% of users would have used transit in the absence of ride-hail, 43% taxi, 13% walk, 12% car, 3% bike and 2% would not have made the trip.

93% of New Yorkers walk to transit and 97% walk from it. In the Manhattan core, 47% of trips are made on foot. 91% feel safe walking in their neighbourhood: 83% feel safe walking in the city.

Pedestrian Priority in the City

From Streetsblog

The city of London is on a mission to make walking as convenient as possible, using smarter traffic signals that reduce wait times for pedestrians. For the past few years, Transport for London has been conducting “annual timing reviews” at 1,200 signalised intersections. Last year, the agency adjusted 200 signals to give people the walk sign sooner.

Now TfL wants to take the concept further as part of Mayor Sadiq Khan’s ambitious plan to get Londoners walking more (<http://content.tfl.gov.uk/mts-walking-action-plan.pdf>).

To help meet its goals for “pedestrian time saved,” the agency will begin using smart traffic signals that employ what’s known as “Split Cycle Offset Optimisation Technique” (SCOOT). These signals, which will be installed at a small number of locations, can detect the number of pedestrians waiting at an intersection and automatically adjust timing to minimize their wait and ensure they have enough time to cross.

At 10 other intersections, TfL wants to use traffic signals to give pedestrians the right-of-way by default. They call it the “green man.” TfL writes:

‘Green man’ authority is a radical technique where the traffic signals show a green signal for pedestrians continuously, until vehicular traffic is detected, at which time the pedestrians are stopped on a red signal, and vehicles are given a green light to proceed. This technique has previously only been used at two locations in London, on bus-only streets in Hounslow and Morden. TfL has identified the next 10 new locations where this approach will be set up, where it would significantly benefit pedestrians, with very little detriment to traffic.

The pedestrian signal improvements are part of the “walking action plan”. TfL released recently, which fits into Khan’s goal of increasing daily walking trips from 6 million today to 7 million by 2041.

Walking Action Plan

The Mayor of London recently published his “Walking action plan”.

On page 80, there is a table showing “Duration of walk time to/from public transport compared to the car” which comes from the LTDS 2016/17 (this is the London Travel Demand Survey).

The table below shows, in one column, the “average duration of walk to main transport mode”. The next column shows the main modes of transport (rail, over ground, underground, DLR, bus, tram and car), and the final column shows the “average duration of walk from main transportation mode to destination”.

Columns 1 and 3 are virtually identical, which seemed odd to me. Does anyone have an explanation?

For rail, for example, walk time to rail is 6 minutes 55 seconds: walk time from is 6 minutes 56 seconds. For car, the times are 1 minute 16 seconds and 1 minute 20 seconds. The only way this is likely to be correct is if the ‘walk to’ is in the outward direction and the ‘walk from’ is in the return direction. My walk to the station in the morning takes a fraction less long than my walk back! It seems implausible that someone walks the same length of time from home to station as from station to office.

Clarification appreciated – I couldn’t find any in LTDS.

Rail

DB H1 2018

From International Railway Journal



German Rail (DB) recorded a 17.4% drop in Ebit to €974m during the first half of 2018 which DB’s CEO Dr Richard Lutz attributes to bad weather and the French rail strikes which impacted rail freight traffic.

Rail tonne-km fell by 6.7% from 47.8 billion in the first half of 2017 to 44.5% in the first half of this year.

Conversely, long-distance

Double-deck Regional Train at Berlin Zoo Station

passenger traffic grew by 6% from 19.5 billion passenger-km in the first half of 2017 to 20.6 billion this first half, despite a continuing decline in punctuality which has fallen from 78.9% in 2016, to 78.5% in 2017 and 77.4% for the first half of 2018. DB now plans to invest €100m to improve punctuality. Regional passenger traffic was almost static at 20.6 billion passenger-km.

First half revenue grew by 2.3% to €21.5bn and Lutz predicts a similar growth for the full year to reach €43.7bn.

Lutz remains optimistic that DB will match its 2017 performance this year when it achieved an Ebit of €2.15bn. "The fact that we expect full-year Ebit to be roughly on par with last year's figure despite a weaker first half of the year is due first and foremost to our expectations that we will catch up by the end of the year," Lutz says. "After all, you may remember that the Rastatt tunnel closure, and Cyclones Xavier and Herwart, made the second half of 2017 particularly difficult."

Separately, it has been reported that the first six months of the Berlin – München high speed line have seen 2m passengers, more than twice as many travelling on the old line during the same period last year.

Getlink

Getlink (Groupe Eurotunnel) reported its first half results at the end of July.

In the half-year, it carried 845,000 lorries (probably a record), 1.1631m cars (ditto – it carried 1.1627m in the first half of 2016), 27,300 coaches (probably the lowest figure since 2002 – my data are incomplete) and 1060 freight trains carrying 671,000 tonnes (well below the 1563 trains and 892,000 tonnes in H1, 2015).

Eurostar passengers at 5.2m were the highest I record.

Light Rail and Tram Statistics England: 2017/18



DfT issued this report at the end of June.

Figures for the use of light rail and tram in England showed a decrease of 0.2% in 2016/7, the first decrease since 2009/10. There were 267.2m passenger journeys, of which 45% were on the Docklands Light Railway. Revenue was £371.5m.

After the Docklands Light Railway (147.8m passenger journeys), the

West Midlands Metro Trains in Birmingham

next largest systems in terms of passenger journeys were Manchester Metrolink (41.2m), Tyne & Wear Metro (36.4m) and London Tramlink (29.1m). Several systems saw a decline in ridership from 2016/17, with only Nottingham, Manchester and Blackpool showing an increase. Some of the declines were due to planned work closures.

39% of journeys were commuting, 22% leisure, 17% shopping, 10% education, 6% personal business, 3% business and 2% other.

The systems together have 212 route miles, 400 stations and 512 carriages.

Rail Freight in the Netherlands

Between 2007 and 2017, total rail freight transport rose by 0.5 million tonnes to 41.2 million tonnes. This is an increase of 1.2%, which can be attributed to the growth of international goods transport (from 35 to 38 million tonnes). In the same period, domestic rail freight transport dropped from over 5.5 million tonnes in 2007 to more than 2.7 million tonnes in 2017. The share of international rail freight transport increased from 86% to 93% over the same period.

The increase in rail transport is caused by higher volumes of both transit and inbound freight of foreign origin. Transit goods are transported by rail within the Netherlands but are loaded and unloaded abroad. The share of transit trade doubled from 4% in 2007 to 8% in 2017. In the same period, the share of inbound transport went up from 22% to 25%. The total volume of goods transported from the Netherlands to other countries has hardly changed; from 24.7 million tonnes in 2007 to 24.9 million tonnes last year.

The largest trading partner in terms of both inbound and outbound rail freight transport is Germany. Over 74% of outgoing freight is destined for Germany and 49% of incoming goods are loaded there. This share has also increased over the past decade. Italy, Belgium, Austria and Poland follow. Poland has become increasingly important for inbound rail freight transport; the share of goods loaded in this country rose from over 1% in 2007 to 6% in 2017. These are mainly incoming shipments of container goods and grain from Poland.

Suicide and Trespass Fatalities on US Railroads

From the Washington Post

https://www.washingtonpost.com/local/trafficandcommuting/suicide-by-train-is-in-decline-but-deaths-of-people-who-trespassed-on-railroad-tracks-increased-in-2017/2018/08/06/a3d1a57e-9749-11e8-a679-b09212fb69c2_story.html?utm_term=.0af50e7ec67b

More than 300 times last year, people walked onto railroad tracks to intentionally put themselves in the path of a train — and in 266 cases they successfully committed suicide. Those data, recorded by the Federal Railroad Administration, are based on the conclusions of state or local police who investigated each case. The number of what's known as "suicides by rail" is the lowest in seven years, and preliminary data from the first four months of 2018 suggest the annual figure may end up being far lower than last year.

While deaths ruled as suicides have declined, the number of trespassers killed by trains is higher than it has been in 20 years.

The suicide numbers and the total number of "trespasser" deaths and injuries on rail lines — 1,017 last year — reflect that it's virtually impossible to keep people from wandering onto the country's 137,465 miles of freight railroad lines, and that the industry has had mixed success in using warning signs and barriers to scare trespassers away.

Rail beds are private property, but some people are attracted to them because they offer an easy path that cuts through neighbourhoods or, in rural areas, passes through fields or forests.

Overall, in 2016, the Congressional Research Service reported, there were 485 trespasser deaths, 492 trespasser injuries, and 229 suicides on freight, commuter and intercity passenger railroads.

People bent on suicide have been profiled by the FRA in an effort to understand and minimize the number of fatalities.

A report conducted for the 2007-2010 period found that:

- All of those who died had abused alcohol or drugs, and all but two suffered from mental illness.
- At the time they stepped in front of a train, half had consumed alcohol or illegal or prescription drugs.
- 84% of those who committed suicide were men.
- The median age was 40 years old.
- More than half suffered from a chronic physical illness that often caused pain.

“Choosing a violent method, such as suicide by rail, has been associated with substance abuse or dependence and psychotic disorders,” said another FRA report published four years ago. “The individuals included in this report were more likely to have a mental disorder (96%) or a drinking (62%) or substance abuse (58%) problem than individuals who chose other suicide methods.”

In some cases, despondency is caused by a triggering event or a series of events, the 2014 report said.

Almost half of the people who committed suicide on the railroads had attempted suicide of some form at least once in the past, and some had attempted it multiple times. Suicide by railroad make up a tiny fraction of those who kill themselves in the United States. In 2014, for example, 42,773 people committed suicide — about half using a firearm — while only 275 succeeded in doing so by stepping in front of a train. The Congressional Research Service reports that “Although the freight railroads, Amtrak, and many commuter railroads have police forces that could arrest trespassers, the industry has devoted most of its effort to educating the public that railroad tracks are far riskier than they appear.” To that end, Congress and the rail industry have funded a non-profit group known as Operation Lifesaver to educate people about the dangers of grade crossings and trespassing.

The 2014 FRA study differentiates between those who trespass on rail lines and those who plan to take their own lives.

“Reducing the overall number of individuals who attempt suicide by all means will likely result in a decrease in suicides on the railroad rights-of-way,” the study says.

Thameslink Programme Evaluation



The DfT recently published their “Thameslink programme evaluation baseline report”, as part of the process of assessing the value of the major investments in Thameslink. Such back-checks are all too rare: it’s good to see this one in course of preparation. Lessons learned, it says, will inform the future development of ongoing projects and programmes, as well as the option

Thameslink Class 700 at St Pancras International

appraisal and planning for new initiatives.

The back-check involves the collation of baseline data for 2008 and the initial post-impact evaluation based on 2009-2011. This document deals with the collection of baseline data for the evaluation of the investment to be delivered between 2013 and the end of the programme.

The Thameslink programme concept was to run more main line trains through London by extending the network, reducing the number terminating in London and introducing 12-car trains (previously 8 was the maximum) and creating the ability to run up to 24 trains/hour through the Thameslink core between St Pancras and Blackfriars. Primary objectives were to reduce overcrowding on main line and underground services, reduce the need for interchange, enhance accessibility and facilitate the dispersal of passengers from St Pancras station.

12-car trains started running between Brighton and Bedford in December 2011. Major improvements were made to Blackfriars, Farringdon and West Hampstead stations in 2011/12. London Bridge concourse opened completely in January 2018: work is due for completion during this year.

Service improvements are to be measured by changes in journey time (platform wait time, in-vehicle time and interchange time) and on-train crowding. There isn’t really a true comparator, but the c2c service out of Fenchurch St is seen as the best available one.

There is much discussion of data – train frequency information, passenger views through the NRPS, and PPM data. Morning peak timetabled average journey times have improved between St Albans and St Pancras (4.6%), Bedford and St Pancras (4.3%) and West Hampstead and St Pancras (18% - from 9.28 minutes to 7.61). Fast services between St Albans and St Pancras in 2008 generally took 20-22 minutes, whereas in May 2012, 11 took less than 20 minutes – which has an impact on crowding statistics, since the standard says that no-one should stand except by choice for more than 20 minutes.

Surveys showed that 76% of journeys started at one of the four central London stations – about 25% each from Farringdon and City Thameslink, 15% Blackfriars and 14% St Pancras. 17% interchanged from London Underground trains. For the afternoon and evening trips, key destinations are St Albans (15.8%) and Harpenden (9.2%): no other station attracted more than 4%.

At the four London core stations, 93.4% walked to their Thameslink train. At their final station, 66.5% walked destination and 21% used car: 9.8% used bus and 0.2% (including 0.8% of users of Blackfriars) used air.

Surveys were done by questionnaires being handed to passengers. They could complete and return or complete online: only 13 of the 2042 completed questionnaires were completed online.

The report recommends a further evaluation in 2020/21 (a year after implementation) and 2024/25 (five years after).

A fascinating piece of work, especially for one who has travelled on the line since birth.

US – Tank Wagon Shortage Imminent

From Oilprice.com

US oil refiners and producers are looking for ways to reverse a decision by the country's largest railroad operator, BNSF Railway Co, to curb the use of retrofitted oil tank cars on its railroads as a safety measure after a derailment in Iowa in June. Reuters reports that this decision could lead to the removal of several thousand oil tank cars from a crucial railway line and substantially raise the lease rates for new cars. Already, two brokers told Reuters, the lease rate for new oil tank cars is over US\$1,000/month, up from US\$400/month at the end of last year.

In June, an oil train derailed in Iowa and spilled more than 200,000 gallons of Canadian heavy crude into a public waterway. Following the incident, BNSF said it will stop offering retrofitted tank cars—of which there are about 11,000 on U.S. railroads—in new contracts. Companies including Exxon, Phillips, and Enbridge use the cars and will be affected by the change. BNSF's decision comes at a bad time for shale producers, particularly in the Permian shale region. The oil rush that some media have dubbed Permania led to a shortage of pipeline capacity that has resulted in a discount for crude pumped there as it sits and waits longer than usual to be shipped to the Gulf Coast refineries

Canadian heavy oil producers are also suffering a pipeline shortage, so for both groups the railway has become the obvious alternative, even though it is costlier for them and, based on statistical data, riskier for the environment, as once more proved by the Iowa derailment.

However, pipeline opposition in both the United States and Canada has prevented the industry from adding much needed capacity, although the Permian is better placed than the Alberta oil sands: several large-scale pipeline projects are in progress there already.

Ed – I bristled a bit at that throwaway 'riskier for the environment' in the penultimate paragraph – pipelines leak too, and I recall some time ago reading that there were more pipeline leaks than rail tank wagon incidents. Informed views welcomed.

Virgin Trains – Record Year for London – West Midlands Services



In early June, Virgin Trains announced a record year for its 21st year as operator of the West Coast Main Line. Between April 2017 and March 2018, it carried more than 2.2m passengers between the West Midlands and London. This is 4.6% up on the previous 12 months.

In the four weeks leading up to Christmas 2017, the company carried over 200,000 passengers between London and Birmingham – the

Virgin West Coast Pendolino at Euston

highest number ever and 10.8% up on the previous year. Traffic between London and Rugby (+8.3%) and London and Coventry (+7.1%) was also significantly up. The average fare paid on journeys to and from London was down 2%.

Air

ACI Traffic Analysis

Airports Council International (ACI) World recently reported that global passenger traffic growth remained strong in April with a 6.1% increase year-on-year, just below its 12-months rolling average of 6.5%. Although growth in passenger traffic remains robust, April marked a slight change from recent high growth levels mainly due to the timing of Easter.

ACI's month-by-month passenger and freight statistics are based on a significant sample of airports that provide regular reports and form part of one of the world's most comprehensive sources for airport data.

Freight volumes experienced a global growth rate of 4.5% following a slower month of March.

The global figure for domestic passenger traffic reached 7.1% year-on-year for the month, bringing its year-to-date figure to 6.2%. International passenger traffic decreased to 4.9% for April, from 10.5% in March. Asia-Pacific and Africa both benefitted from high growth, with increases of 9.9% and 9.0% respectively year-on-year. Most major Asia-Pacific markets saw solid growth during the period, with India leading, growing by 20.4% year-on-year. Indonesia and China also reached double-digit growth in April, with 13.5% and 11.8% respectively. Korea and Japan followed fairly closely (9.2% and 7.0% respectively).

Passenger markets in Europe and North America both grew at 5.0% year-on-year in April. Unequal growth patterns re-emerged in Europe, with several major markets such as Spain (2.8%), France (0.8%) and Germany (0.4%) recording lower figures. These results were affected by the timing of Easter 2017, which came relatively late and boosted April figures last year. Following that trend, and against a backdrop of particularly difficult European Union exit negotiations, the United Kingdom saw -1.6% for the month year-on-year, with London's Heathrow (LHR) and Gatwick (LGW) declining by 2.2% and 1.4% respectively. Europe's peripheral markets continued

their expansion, however, with countries such as Ukraine, Poland, Hungary, and Finland all growing by double-digit figures both year-on-year and year-to-date. Turkey and the Russian Federation also continued their recovery, with 14.2% and 11.6% respectively year-on-year.

North America's passenger market was supported by the United States' robust domestic segment in April, which reached +5.5% from +4.4% in March year-on-year. Latin America-Caribbean grew at 3.0% year-on-year during the period, with Mexico and Argentina experiencing relatively robust growth (8.8% and 6.9% respectively).

The Middle East saw traffic declines for the month of April, reaching -2.4% year-on-year. The region's passenger traffic has been suffering from political crises affecting a number of countries.

Capacity Increase between Singapore and the US

From a CAPA Report



The Singapore-US market will be served with 41 nonstop flights in December 2018, compared to 21 currently and zero just over two years ago. There is perhaps no market that has benefitted as much from new aircraft technology.

Singapore Airlines (SIA) and United Airlines used the A350-900 and 787-9 to launch nonstop flights from Singapore to San Francisco in 2016.

A350-900 at Toulouse

SIA will use the new A350-900ULR to resume nonstop flights to Los Angeles and Newark in 4Q2018, as well as to increase capacity to San Francisco.

SIA's business class capacity to the US will increase by 50% over the next few months, and its premium economy capacity will increase by a staggering 150%. Filling more than 3,100 one-way business class seats and more than 2,800 one-way premium economy seats may prove challenging.

Recent Airline Statistics

JetBlue reported its Q2, 2018 figures recently, and I added these to my database which cumulates the latest four quarters.

Almost everything is up. Revenue at \$6737m is the highest since my series started in Q4, 2015. The same is true of revenue passenger miles, available seat miles and passenger numbers.

Revenue/passenger is just over \$165. It was at this level in the four quarters to Q4, 2015 and Q1, 2016 but then dropped to \$154 in Q1, 2017 – since when it has grown. Revenue/passenger mile has shown a similar trend – it was \$0.141 at the start of the series, dropping to \$0.130 and then climbing back to \$0.139.

Length of journey has stayed at just under 1200 miles.

Southwest showed a similar trend. Revenue at \$19426m for the last four quarters is the highest since my series started. Revenue passenger miles at 130900m are at a record high, and over 130000m for only the second time. Available seat miles (155,798m) are also at a record high. Passenger numbers are over 160m for the first time. Revenue/passenger is a record low, at just under \$121: revenue/passenger mile is also low at \$0.148 (where it has been for some time). Average journey length is 812 miles – the same as when my series started in Q4, 2015. It rose steadily to 865 in Q2, 2017 but has now dropped back.

By contrast, **American Airlines** showed a few declines. Revenue for the last 4 quarters (to Q2, 2018) was down a bit on the previous 4 (to Q1, 2018) – although that was a record high and both the figures are the highest since my series started. Revenue passenger miles and available seat miles were at all-time highs, and the number of passengers (146.8m) is the highest since 2016.

Revenue/passenger at \$289.84 is down a bit on the previous two sets of four-quarter totals, although these were high – in Q4, 2015 the figure was \$197.78. Revenue/passenger mile has been around \$0.20 for some time (\$0.1456 in Q4, 2015) and average journey length shows little change at 1390 miles (it's fluctuated between 1358 and 1391).

Air Canada's Q2 results, when added to the previous three quarters, highlight a number of records since my series began in Q4, 2015. Revenue (C\$17164m) is above C\$17000m for the first time: revenue passenger miles at 88962m is above 88000m for the first time. Available seat miles at 107372m is above 106000m for the first time. Passenger numbers (49.406m) are above 49m for the first time: revenue/passenger at C\$347.41 is above C\$345 for the first time. Average length of journey at a fraction over 1800 miles is above 1800 miles for the first time. Revenue/passenger mile, at C\$0.1929, is the highest since the four quarters to Q3, 2016: in the year to Q4, 2015 it was C\$0.2053.

A similar trend is seen in **Singapore Airlines'** Q1, 2018/9 data: note that it does not report revenue for its Singapore Airlines operation – only for the entire group.

RPKs, at 97,109m, were above 97,000m for the first time: ASKs at 118948m were the highest since my series started in the four quarters to Q4, 2015. Passenger numbers at 19.749m were a record high: average journey length (4917km) was the highest for some time. In the four quarters to Q4, 2015 it was 4954km, but this dropped to 4890 in the year to Q3, 2016 before slowly climbing again.

IAG, owner of BA, Aer Lingus and Vueling, also showed good Q2 results.

Passenger revenue, at €20608m for the previous four quarters, continues to grow from a low point in the year to Q1, 2017, when it had dropped to €19738m from the €20770m recorded in the year to Q2, 2016.

RPKs (261033m), ASKs (313545m) and passenger numbers (108.754m) were at their highest since my series started in Q4, 2015.

Revenue/passenger at €189.49 was below €190 for the first time since my series started: in the year to Q4, 2015 it was €230.72 and has been dropping steadily since. Revenue/passenger kilometre is also at its lowest, at €0.0789 (down from €0.0918 in the year to Q4, 2015). Average journey length, at a fraction over 2400km, is also at its lowest.

The **Lufthansa** Group has reported some interesting data.

Austrian Airlines' revenue has been declining for the last four consecutive four-quarter periods. RPKs and ASKs are up: as with passenger numbers, these are the highest since my series started. Revenue/passenger is down quite dramatically - €169 now, €188 in Q2, 2017 and nearly €194 in Q2, 2016. Revenue/passenger-kilometre is down, although not as dramatically, and average length of journey, at 1546km, is also the lowest since my series started.

For **Lufthansa** itself, there is a similar trend. Passenger numbers are down, although both PKMs and ASKs are up. Passenger numbers at 68.4m are up, but revenue/passenger (€235) is below €240 for the first time. Revenue/passenger kilometre is only just above €0.1: average journey length is up a bit at 2337km.

SWISS, the other member of the group, has seen an increase in revenue, PKMs, ASKs and passenger numbers: all of these are the highest since the series started. However revenue/passenger (€241) and revenue/passenger-kilometre (€0.1001) are on historic lows. Average length of haul at 2409km is lower than the previous four quarters, but that was a record high.

Air Passenger Market Analysis

IATA

IATA published their Air Passenger Market Analysis for June in mid-August. Key points were as follows.

Industry-wide revenue passenger kilometres increased by 7.8% year-on-year in June, up from 6.0% in April.

The first six months of the year produced growth of 7.0% – a robust, above-trend performance, but down on that of the same period in 2017. This is a pattern they continue to expect over the course of the year.

Carriers based in Africa and the Middle East saw the fastest international RPK growth rate this month. Of the main domestic markets, India again led the way with double-digit RPK growth for the 46th consecutive month.

Industry-wide revenue passenger kilometres (RPKs) increased 7.8% year-on-year in June, from 6.0% in both April and May.

Looking at the first half of the year, RPKs are growing at a solid pace of 7.0%, consistent with IATA's view that 2018 will be another year of above-trend growth for industry-wide RPKs. Having said that, the pace of growth over the first half of the year has moderated compared with 1H 2017, where growth was running at an 8.3% pace.

This moderation in the pace of growth over the first half is in line with the expectation that RPK growth, while remaining robust, will nonetheless slow moderately in 2018 compared with the rate recorded last year.

Road

Average Car Occupancy

Table NTS0905 has recently been released with 2017 figures by DfT. It shows that vehicle occupancy in all categories of trip purpose is down on 2002.

For commuting, it's down from 1.19 people/car in 2002 to 1.16 in 2017. For business use, the figures are 1.23 to 1.18 (although this series fluctuates a bit). Education too fluctuates, but over the decade and a half, occupancy is down from 2.05 to 2. For shopping it's down from 1.73 to 1.65: for personal business 1.44 to 1.42. Leisure is down from 1.77 to 1.69: holiday and day trip down from 2.1 to 1.92 and 'Other including just walk' from 2.04 to 1.95. 'All purposes' is down from 1.59 to 1.55.

Better Fuel Economy, More Accidents?

From AP

The Trump administration says people would drive more and be exposed to increased risk if their cars get better gas mileage, an argument intended to justify freezing Obama-era toughening of fuel standards. Transportation experts dispute the arguments, contained in a draft of the administration's proposals prepared this summer, excerpts of which were obtained by The Associated Press.

The excerpts also show the administration plans to challenge California's long-standing authority to enact its own, tougher pollution and fuel standards.

Revisions to the mileage requirements for the 2021-2026 period are still being worked on, and changes could be made before the proposal is released.

The Trump administration gave notice earlier this year that it would roll back tough new fuel standards put into place in the waning days of the Obama administration. Anticipating the new regulation, California and 16 other states sued the Trump administration in May.

Overall, "improvements over time have better longer-term effects simply by not alienating consumers, as compared to great leaps forward" in fuel efficiency and other technology, the administration argues. It contends that freezing the mileage requirements at 2020 levels would save up to 1,000 lives each year.

New vehicles would be cheaper — and heavier — if they don't have to meet more stringent fuel requirements and more people would buy them, the draft says, and that would put more drivers in safer, newer vehicles that pollute less. At the same time, the draft says that people will drive less if their vehicles get fewer miles/gallon, lowering the risk of crashes.

David Zuby, chief research officer at the Insurance Institute for Highway Safety, said he's doubtful about the administration's estimate of lives saved because other factors could affect traffic deaths, such as car makers agreeing to make automatic emergency braking standard on all models before 2022.

Experts say the logic that heavier vehicles are safer doesn't hold up because lighter, newer vehicles perform as well or better than older, heavier versions in crash tests, and because the weight difference between the Obama and Trump requirements would be minimal.

"Allow me to be skeptical," said Giorgio Rizzoni, an engineering professor and director of the Center for Automotive Research at Ohio State University. "To say that safety is a direct result of somehow freezing the fuel economy mandate for a few years, I think that's a stretch."

Experts say that a heavier, bigger vehicle would incur less damage in a crash with a smaller, lighter one and that fatality rates also are higher for smaller vehicles. But they also say that lighter vehicles with metals such as aluminium, magnesium, titanium and lighter, high-strength steel alloys perform as well or better than their predecessors in crash tests.

Alan Taub, professor of materials science and engineering at the University of Michigan, said he would choose a 2017 Malibu over a heavier one from 20 years earlier. It's engineered better, has more features to avoid crashes and additional air bags, among other things. "You want to be in the newer vehicle," he said.

An April draft from the Trump administration said freezing the requirements at 2020 levels would save people \$1,900 on each new vehicle. But the later draft raises that to \$2,100 and even as high as \$2,700 by 2025.

Environmental groups questioned the justification for freezing the standards. Luke Tonachel, director of the clean-vehicle program at the Natural Resources Defense Council, said the risk from people driving more due to higher mileage is "tiny and maybe even negligible."

Under the Trump administration proposal, the fleet of new vehicles would have to average roughly 30 miles/US gallon in real-world driving, and that wouldn't change through 2026.

California has had the authority under the half-century-old Clean Air Act to set its own mileage under a special rule allowing the state to curb its chronic smog problem. More than a dozen states follow California's standards, amounting to about 40% of the country's new-vehicle market.

The Department of Transportation said in a statement that the final fuel economy standards would be based on sound science. The department cautioned that a draft doesn't capture the whole picture of the proposed regulation.

The draft said a 2012 analysis of fuel economy standards under the Obama administration deliberately limited the amount of mass reduction necessary under the standards. This was done "in order to avoid the appearance of adverse safety effects," the draft stated.

Traffic light enforcement cameras

From Streetsblog

Red light runners are killing more Americans as many cities wind down red light camera enforcement, according to the Insurance Institute for Highway Safety. The IIHS reports that 811 people were killed in crashes caused by red light runners nationwide in 2016, an increase of 17% compared to the previous four-year average. The rise in red light-running fatalities coincides with a decline in the number of cities using camera enforcement to deter red-light running. Between 2012 and 2016, the number of red light cameras in operation fell 21%, according to IIHS.

While IIHS doesn't attribute all of the additional loss of life to the reduction in cameras, their research shows it is a factor. A 2016 IIHS study found that the fatal red-light running crash rate in cities that shut off their cameras increased 30% relative to similar cities that had not. In cities that had eliminated camera enforcement, the overall fatal crash rate at signalized intersections was 16% higher than in cities where the programmes were maintained.

Cities are more vulnerable to political backlash against camera enforcement when the programmes are poorly managed, which lends credence to accusations that the programmes are about revenue, not safety. To be effective and politically sustainable, the programmes have to be structured to maximize public safety and eliminate incentives for contractors to game the system. Here's how the IIHS recommends setting up a red light camera programme (with some additional suggestions from us):

1. Put the cameras at the most dangerous intersections

The first step is to assess where cameras are needed the most. Place the cameras where severe red light running crashes are most prevalent.

The camera locations should not be concentrated in communities of colour. In Cleveland, research showed black residents received a disproportionate share of the city's camera fines, but in 2013 the city still proposed placing most of a batch of enforcement cameras on the predominantly black East Side. The next year residents voted to ban the cameras citywide.

2. Target the most dangerous violations

Red light running is dangerous because it causes T-bone crashes and collisions with pedestrians and cyclists at speed — all of which are correlated with severe injuries and fatalities. These crashes are the result of motorists blowing straight through a red, which should be the focus of red light camera enforcement. Citations for turning right-on-red make sense in crowded urban areas, but not in more sparsely populated places.

3. Use standard signal timing

If drivers think the yellow phase is short, the camera programme will be tarred as unfair. To ensure the yellow phase is standard, IIHS recommends consulting guidelines from the Manual on Uniform Traffic Control Devices or the Institute of Transportation Engineers.

4. Allocate revenue to safety programmes

Once the costs of administering the programme are covered, use the camera revenues to fund street safety programmes.

5. Encourage public input

IIHS recommends cities establish an advisory stakeholder group, composed of law enforcement, residents, school officials, and victims' advocates, to help design the programme and oversee changes.

6. Be transparent

Collect and publish data about how the programme is functioning. IIHS cautions, however, that before-and-after comparisons between intersections with cameras and those without may not capture the full effect of the cameras, since there are often "spillover effects" where enforcement at some intersections improves compliance in general.

7. Don't create bad incentives for the vendor

Cities should pay the red light camera vendor based on the vendor's costs to implement the system, not based on the number of tickets issued.

8. Don't set up hair-trigger cameras

When the cameras are first installed, IIHS recommends a probationary period in which drivers are issued warnings instead of fines. IIHS also says cameras should

not trigger a fine for drivers who disobey the red signal less than one-eighth to one-half of a second after the light changes.

9. Allow for due process

Put a system in place for people to contest violations and make it easily accessible to the public.

10. Sliding-scale fines and alternatives to payment for low-income drivers

A one-size-fits-all red light-running fine might not even register for a rich person, but for a poor person it can be a heavy burden exacerbating debt and poverty. In several northern European countries, fines are proportionate to income to create a fair incentive system. Sliding scale fines are rare in the U.S., but cities can also let low-income people forego fines and enrol in a safe driving class or other remedial programme, like community service, instead.

Sea

PANYNJ Record Cargo Volume

From Progressive Railroading

The Port of New York and New Jersey (PANYNJ)'s cargo volumes set a new record in the first half of 2018, with volume up 6.8% over the same period last year, when the previous six-month record was set.

The port handled 3,450,469 20-foot equivalent units (TEUs) between January 1 and June 30, up from 3,229,675 TEUs handled during the same period in 2017. The increase was fuelled by a 7.8% increase in loaded import containers, primarily carrying furniture, appliances and beverages. Export loaded containers rose 9.2%, further boosting the increase.

The port's record volume has allowed the port to maintain its position as the busiest on the East Coast.

A primary factor driving the cargo increase is the completion of the \$1.6 billion Bayonne Bridge navigational clearance project, which raised the clearance capacity to allow ships carrying as many as 18,000 TEUs to pass underneath it. Previously, the maximum vessel size was 9,800 TEUs. Currently, 9.1% of the port's cargo is carried on vessels that are 13,000 TEUs or larger.

Also during the first half of the year, ExpressRail — the PANYNJ's ship-to-rail system serving New York and New Jersey marine terminals — handled a record 315,011 lifts — a 15% increase from the previous record set in 2017.

PANYNJ anticipates that cargo transported by rail will continue to grow after its newest rail facility — ExpressRail Port Jersey — opens at the end this year. Once that facility opens, it will give the port the capacity to handle 1.5 million container lifts a year, which is anticipated to eliminate 2.25 million annual truck trips from local highways.

The Impact of Cleaner Bunker Fuel

From US News

A little-noticed rule requiring large ships to cut the air pollution they produce threatens to drive benchmark oil prices as high as \$200 a barrel, send prices at the pump soaring to \$6 or even \$10 a gallon and crash the global economy just 17

months from now. The doomsday scenario was described in a recent paper by Philip Verleger, an economist who advised two presidents and correctly forecast in 2007 that oil prices would sharply rise to levels that could trigger a financial crisis – a development experts say contributed to the Great Recession. And in his latest prediction, he's not alone. Goldman Sachs, Morgan Stanley and other industry experts have issued similar warnings about significant increases in oil prices to come.

The reason is the near-unanimous decision by the International Maritime Organization (IMO), a United Nations agency that oversees the shipping industry, to cut the amount of sulphur in the maritime fuel used by large ships from 3.5% to 0.5%. Experts, including Verleger, broadly agree that the rule, first announced in 2008, is a necessary and even overdue corrective to decades of pollution by the maritime sector: a single cruise ship in one day generates as much particulate matter as 1 million cars, and 15 of the world's biggest ships emit more sulphur and nitrogen oxides than all the cars on the planet, Goldman Sachs found in a May analysis. One study published in February estimated that the new rule, once implemented, will prevent 150,000 premature deaths and 7.6 million childhood asthma cases each year.

In choosing when exactly to institute the rule within a window that spanned 2020-2025, however, the maritime organization opted in 2016 for the earliest date. And in the face of years of procrastination by shipowners to respond to the rules, experts say that decision will soon lead to a sudden shift in oil demand, leaving refineries and global markets deeply unprepared. A looming supply crunch in crude oil, caused by years of under-investment in exploration and new production, could compound the issue.

Ship companies have essentially two options under the maritime organization's rules: install "scrubbers" that would remove sulphur oxides and nitrogen oxides from their emissions or switch from heavily polluting maritime "bunker fuel" to cleaner-burning diesel blends that comply with the new limits on sulphur. With scrubbers being prohibitively expensive for most ships, the vast majority will almost certainly instead shift to diesel, which they can start using without major changes to equipment. That, in turn, is expected drive-up demand and cause prices to soar on diesel, a fuel that's already experiencing the strongest demand in years. Refineries, Verleger says, simply won't be able to keep up with the sudden new demand from shipping, creating a costly and catastrophic bottleneck that could cause gasoline prices to double and the global gross domestic product to drop as much as 5%.

The bulk of the problem relates to how well refineries are able to produce fuel from the two main types of crude oil that different regions produce. State-of-the-art refineries in the US Gulf region, Northwest Europe and India are able to take the heavy, sour crude produced in much of the Middle East, Canada, Venezuela, Alaska, Mexico and from US rigs in the Gulf of Mexico and process it into light products such as diesel. Older and less complex refineries, however, aren't able to as easily produce as broad a range of fuels. They're able to use heavy, sour crude to produce the bunker fuel that ships currently use – a fuel that emits huge amounts of harmful sulphur oxides and nitrogen oxides. But to make diesel, they depend on the light, sweet crude produced in part parts of Africa, Southeast Asia, Russia, and certain areas of the US and Canada. Their capacity to produce diesel, in other words, is much more limited – in turn creating a cap for how much diesel refiners can produce overall.

Global demand for diesel has risen by about 600,000 barrels/day each of the last three years, buoyed by relatively robust economic growth in sectors ranging from agriculture to shipping to transportation. Diesel prices in the US, meanwhile, are at their highest point since July 2014. The changeover in maritime fuels is expected to perhaps double the projected increase in demand, abruptly adding 1 to 2 million bpd of demand, analysts say.

In spite of that increase, some experts say that fears about the fuel rule's impact are likely overblown. Morgan Stanley in its analysis in June, for example, predicted a more modest climb for benchmark Brent crude prices to \$90/barrel, up from about \$75 now.

Some refineries have already started taking steps to ramp up their diesel output, and fuel consumption by the shipping industry, though difficult to track, appears to have levelled off or even declined. In a report commissioned by the IMO to evaluate the fuel rule, a consortium of consultants concluded that refineries would be able to meet new diesel demand from the shipping sector. And though global demand for diesel has ticked up in recent years, that increase followed a period of decline.

However, another consulting firm – hired by an oil and gas industry group and the world's largest shipowner's association – submitted a rival report to the IMO that reached a different conclusion: that refineries would be vastly overwhelmed, causing prices to skyrocket. Analysts are also predicting that low levels of investment in oil exploration and new production – a consequence of the collapse in benchmark oil prices in 2014 – will mean that rising demand, especially in China and India, will soon outpace supply, further driving up prices.

The mechanisms for enforcement appear to be in place: insurers and banks have both said they won't back ships that don't comply with the new rules, a signal of the measure's broad support. There remain some 17 months until the rule's implementation, and experts say that a gradual phase-in of the rule would mitigate its impact, especially compared to the abrupt changeover that's presently expected on 1st January 2020. However, there's little sign that shipping companies – which have already had a decade to respond to the fuel rule – wouldn't simply procrastinate further in the face of delay.

Few experts expect any changes. Among the IMO's member states, the United States – with comparatively few ships in the industry – has relatively little clout, and the rule enjoys especially strong support from the organization's European members. In a vote in April on a similar measure aimed at cutting emissions that contribute to climate change, the US was outvoted 174-3, joined only by Saudi Arabia and Brazil in opposition.

Another factor, though, could further dampen its impact: a decrease in global demand, perhaps caused by one dynamic in particular:

"The impact might not be as great if the trade war slows things down," Verleger says. "The economic slowdown in China, which seems to be developing, if the US economy starts to slow down, that could change things.

"One way or another, you wind up with troubles."