

TSUG

Transport Statistics Users Group

Monthly Review: April 2017

April's review addresses the interesting topic on the impact of ride services such as Uber and Lyft on city congestion. We've also got the ACI report for 2016 and summaries of statistical releases from across the U.K. and U.S. There's no seminar report this month as we didn't hold an event in February, but the write-up feature will return in May. Also note that there's no seminar this April, but keep an eye on the TSUG website for the date of the next seminar.

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Contents

Dates of the next TSUG seminars.....	2
Statistics Digest.....	2
General News	3
North American freight statistics 2016	3
Bike ferries in Sweden and Denmark.....	4
BTS releases National Transportation Noise Map	5
Recent DfT statistics.....	5
Transport in Scotland.....	6
Rail.....	7
Off-peak rewards on BART.....	7
BNSF performance 2016.....	7
Level crossing and trespass fatalities on US railroads	8
Swedish railways 2016	9
US freight railroad statistics	9
Air	10
ACI Report for 2016.....	10
December and annual U.S. airline traffic data for 2016.....	11
January worldwide air traffic	11
Seasonality of air travel	12
Road	13
Record high for U.S. traffic volume – pressure on infrastructure	13
Local bus journeys in England.....	13
Uber is making NYC gridlock worse.....	14

Unsustainable? The growth of app-based ride services in NYC.....**Error!**
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Dates of the next TSUG seminars

Date	Venue	Topic
Watch this space!		

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

Statistics Digest

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

23 Mar	Road conditions in England: 2016	https://www.gov.uk/government/statistics/road-conditions-in-england-2016
29 Mar	Shipping fleet statistics: 2016	https://www.gov.uk/government/statistics/shipping-fleet-statistics-2016
30 Mar	National Travel Survey factsheet. Why people travel: Shopping	https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/604103/why-people-travel-shopping-2015.pdf

Forthcoming releases from Department for Transport

13 Apr	Vehicle licensing statistics: 2016	https://www.gov.uk/government/collections/vehicles-statistics
13 Apr	Road freight statistics: October 2015 to September 2016	https://www.gov.uk/government/collections/road-freight-domestic-and-international-statistics
27 Apr	Road traffic estimates in Great Britain: 2016	https://www.gov.uk/government/collections/road-traffic-statistics
27 Apr	Road lengths in Great Britain: 2016	https://www.gov.uk/government/collections/road-network-size-and-condition
Apr	Journey time statistics: 2015	https://www.gov.uk/government/collections/journey-time-statistics
4 May	Renewable Transport Fuel Obligation: Year 9 (2016 to 2017) report 3 (15 April 2016 to 14 April 2017 supply)	https://www.gov.uk/government/collections/biofuels-statistics
May	Travel time measures for local 'A' roads, England: April 2016 to March 2017	https://www.gov.uk/government/collections/road-congestion-and-reliability-statistics
May	https://www.gov.uk/government/collections/road-congestion-and-reliability-statistics	https://www.gov.uk/government/collections/road-congestion-and-reliability-statistics
7 June	Search and rescue helicopter statistics: year ending March 2017	https://www.gov.uk/government/collections/search-and-rescue-helicopter-statistics
29 June	Vehicle speed compliance statistics for Great Britain: 2016	https://www.gov.uk/government/collections/speeds-statistics
June	Reported road casualties in Great Britain, main results: 2016	https://www.gov.uk/government/collections/road-accidents-and-safety-statistics
June	Light rail and tram statistics: year ending March 2017	https://www.gov.uk/government/collections/light-rail-and-tram-statistics
June	National travel survey factsheet	https://www.gov.uk/government/collections/national-travel-survey-statistics
June	Air passenger experience of security screening: 2016	

Forthcoming releases from Department for Transport

<https://www.gov.uk/government/collections/aviation-statistics>

13 July Road freight statistics: 2016

<https://www.gov.uk/government/collections/road-freight-domestic-and-international-statistics>

July Rail passenger numbers and crowding on weekdays in major cities in England and Wales: 2016

<https://www.gov.uk/government/collections/rail-statistics>

The US National Academies Press has released a report “Innovations in Federal Statistics: Combining Data Sources While Protecting Privacy” of which a PDF copy is available free of charge [here](#).

It is necessary to register to download the report, but registering with the National Academies Press is a simple procedure and gives access to a wide variety of material from USA.

General News

North American freight statistics 2016

Lightly edited from a BTS Statistical Release

Four out of five major transportation modes – truck, pipeline, vessel and air – carried less domestic and inter-NAFTA freight by value in 2016 than in 2015. Rail is the only major mode to carry more freight, increasing by 0.2%. The total value of cross-border freight carried on all modes fell 3.4% from 2015 to \$1.069 trillion in current dollars, according to the U.S. Department of Transportation’s Bureau of Transportation Statistics (BTS).

Freight by Mode

The modal share of commodities moving by truck increased by 1.1 percentage points, rail increased by 0.5 percentage points, and air was unchanged from 2015 to 2016. The modal share of freight on other modes declined: pipeline by 0.5 percent points and vessel by 1.1 percentage points.

A large drop in the year-over-year price of crude oil in early 2016 played a key role in the annual declines in the dollar value of goods shipped by vessel (down 20.0%) and pipeline (down 12.9%). By the end of 2016, the year-over-year price of crude oil was increasing.

Trucks carried 65.5% of U.S.-NAFTA freight, a 1.1 percentage point increase from 2006, and continued to be the most heavily utilized mode for moving goods to and from both U.S.-NAFTA partners. Trucks accounted for \$362.0 billion of the \$572.2 billion of imports (63.3%) and for \$338.0 billion of the \$496.9 billion of exports (68.0%).

Rail remained the second largest mode, moving 15.5% of all U.S.-NAFTA freight, followed with vessel by 5.5%; pipeline by 4.6% and air by 3.9%. The surface transportation modes of truck, rail and pipeline carried 85.6% of the total value of U.S.-NAFTA freight flows.

Trucks carried 63.3% of the \$572.2 billion of imports, followed by rail, 18.8%; pipeline, 6.6%; vessel, 5.2%; and air, 3.1%. Truck carried 68.0% of the \$496.9 billion of exports, followed by rail, 11.7%; vessel, 5.8%; air, 4.8%; and pipeline, 2.4%.

U.S.-Canada Freight

From 2015 to 2016, the value of U.S.-Canada freight flows fell 5.4% to \$544.0 billion. Trucks carried 60.1% of the value of the freight to and from Canada, followed with rail by 16.2%; pipeline by 8.4%, vessel by 3.3%; and air by 4.8%. The surface transportation modes of truck, rail and pipeline carried 84.8% of the value of total U.S.-Canada freight flows.

Trucks carried 60.1% of U.S.-Canada freight in 2016, a 1.3 percentage point increase from 2006. Rail and air both had a share gain of 0.2 points, while vessel's share fell 0.6 points and pipeline's share fell 2.1 points.

Trucks carried 53.5% of the \$278.1 billion of 2016 imports from Canada, followed by rail, 21.1%; pipeline, 13.6%; vessel, 4.1%; and air, 4.0%. Truck carried 67.1% of the \$266.0 billion of 2016 exports to Canada, followed by rail, 11.2%; air, 5.6%; pipeline, 3.0%; and vessel, 2.5%.

The top commodity category transported between the U.S. and Canada in 2016 was vehicles and parts at \$106.1 billion with \$59.8 billion or 56.4% moving by truck.

U.S.-Mexico Freight

From 2015 to 2016, the value of U.S.-Mexico freight fell 1.1% to \$525.1 billion. Trucks carried 71.0% of the value of the freight to and from Mexico, followed with rail by 14.7%; vessel by 7.7%; air by 3.0%; and pipeline by 0.7%. The surface transportation modes of truck, rail and pipeline carried 86.4% of the value of total U.S.-Mexico freight flows.

Trucks carried 71.0% of U.S.-Mexico freight in 2016, a 5.0 percentage point increase from 2006. Rail's share increased by 1.7 percentage points from 2006, while pipeline's share increased by 0.5 percentage points, air's share declined by 0.5 percentage points and vessel's percentage share fell 7.0 points.

Trucks carried 72.5% of the \$294.2 billion of 2016 imports from Mexico, followed by rail, 16.5%; vessel, 6.2%; air, 2.4%; and pipeline, 0.1%. Truck carried 69.1% of the \$231.0 billion of 2016 exports to Mexico, followed by rail, 12.4%; vessel, 9.6%; air, 3.8%; and pipeline, 1.6%.

See [BTS Transborder Statistics Release](#) for summary tables and additional data. See [North American Transborder Freight Data](#) on the BTS website for additional data for surface modes since 1995 and all modes since 2004.

Bike ferries in Sweden and Denmark

Edited from an article in CityLab

Sweden and Denmark might be the most bike-obsessed nations in the world. Not content with the superior bike infrastructure they already have, they're now giving cyclists a dedicated way to cross the maritime border that divides them. Starting this summer, a new international ferry service will link Copenhagen with its Swedish sister city of Malmö, just across the Øresund, carrying up to 36 passengers and their bikes. It's the first cross-border sea route designed especially for cyclists—though it will also accept bike-less passengers—and it should help rectify a minor misstep in the region's transit. While Copenhagen and Malmö have been joined ever closer together since the opening of the Øresund Bridge in 2000, cyclists have been somewhat left behind.

Before the bridge opened, it was easy to cycle up to the ferry port and wheel your bike aboard. Since the bridge opened, however, there are no ferry services between the two cities. Bikes are allowed on the trains across the Øresund Crossing (for the price of a child's ticket) but when cyclists tried illegally to use the roadway to bike across last

summer, police closed the bridge. If leisure cyclists are going to be able to cross in a way that's both pleasant and convenient, they need a new ferry.

The ferry in question will be a 1940-built converted fishing boat called the *M/S Elefanten*, whose path will effectively mirror that of the Øresund crossing. Journeying Limhamn to Dragør, just south of Copenhagen airport, the new ferry should attract tourists and Copenhagen's day-trippers who want to cycle straight out of the city and across to the Swedish coast.

The idea of a boat designed mainly for two-wheelers might sound odd, but such services already exist in Scandinavia. Sweden already runs a service to the holiday island of Öland, also launched when a new bridge to the island cancelled ferry services. Meanwhile, Finland runs bike boats around the Åland Islands. The Danish archipelago has many bike ferry links and the country is already planning another international service, this time to Germany across the Flensburg Fjord. Across Europe, plans are afoot to extend the distances which people normally ride, whether its Germany's bike autobahns, Bosnia's rural answer to the High Line or Norway's massive investment in longer distance bike paths even north of the Arctic Circle. The new Sweden-Denmark bike ferry is yet more evidence of a European path network designed for two-wheelers gradually knitting itself together.

BTS releases National Transportation Noise Map

From a Department of Transportation press release. Note that these are US data – railway noise is not measured!

The U.S. Department of Transportation's Bureau of Transportation Statistics' (BTS) initial [National Transportation Noise Map](#), released today, shows that more than 97 percent of the U.S. population has the potential to be exposed to noise from aviation and Interstate highways at levels below 50 decibels or roughly comparable to the noise level of a humming refrigerator.

A much smaller segment of the U.S. resident population has the potential to be exposed to higher levels of aviation and Interstate highway noise. Less than one-tenth of a percent of the population could potentially experience noise levels of 80 decibels or more, equivalent to the noise level of a garbage disposal.

The purpose of the noise map is to facilitate the tracking of trends in transportation-related noise, by mode, and collectively for multiple transportation modes. The data allow viewing the national picture of potential exposure to aviation and highway noise. The data also allow viewing of the potential exposure at the state or county level.

The National Transportation Noise Map will be an addition to the [National Transportation Atlas Database](#) (NTAD), a set of nationwide geographic databases of transportation facilities, networks, and associated infrastructure available from the [BTS Geospatial Data Catalog](#). The layers will be updated on an annual basis, and future versions of the National Transportation Noise Map are envisioned to include additional transportation noise sources, such as rail and maritime.

The BTS map contains aircraft and road noise inventory data provided as web map services (WMS) for use with Geographic Information Systems (GIS), computer programs that can store, analyze, and present spatial or geographic data.

See [BTS press release](#) for full press release and graphics.

Recent DfT statistics

DfT recently published table TSGB0101, giving mode share of passenger transport in Great Britain. Looking at changes in 10-year chunks is quite instructive. Figures are percentages of billion passenger kilometres travelled.

Mode Share (%)	1955	1965	1975	1985	1995	2005	2015
Bus/Coach	38	19	14	9	6	5	5
Car, van, taxi	35	66	75	81	87	85	83
Motor cycle	3	2	1	1	1	1	1
Pedal cycle	8	2	1	1	1	1	1
Road total	84	89	92	93	94	92	89
Rail	15	10	8	7	5	7	10
Domestic air	0.1	0.5	0.5	0.7	0.8	1.3	1.1

That switch between bus and car between 1955 and 1965 is really quite dramatic.

Rail only had a greater share of travel than bus from 1995. While the bus share has gone consistently down, rail dropped from 1955 to 1995 but then doubled, back to 1965 levels.

The share of domestic air is trivial – motorcycle and pedal cycle figures are 0.606 and 0.655 respectively, so their combined share is greater than that of domestic air. The Hatfield train derailment was in 2000 which led to a major deterioration in rail reliability: one could speculate that the 2005 air figure reflects this.

Observations by other TSUG members would be welcomed.

An update of NTS0316 (number of flights abroad) was published at the same time. The percentage of the population of Great Britain making no flights abroad has increased, from 53% in 2006 to 57% in 2012. 24% made one flight abroad in 2006: that dropped to 23% in 2012. 11% of the population took 2 flights in both years: those making 3 trips dropped from 5 to 4 and over three, from 6 to 5.

Transport in Scotland

Edited from an article in The Herald



Carrbridge Station

A total of 537m public-transport journeys were made in a year, according to new figures. Transport [Scotland](#) statistics showed that 76% of the 2015/16 journeys were made by bus, 17% by rail, 5% by air and 2% by ferry. Passengers using ScotRail services made 93.2m journeys, an increase of 0.5% from 2014/15.

The figures also showed that over the past five years air and rail passengers as well as car and cycle traffic have increased, but the number of bus and ferry passengers have fallen.

There were 25.5m air passengers at Scottish airports in 2015, an increase of 6% on the previous year.

Ferry services, meanwhile, were used by 9.5m passengers in 2015, with 7.8m passengers using routes within Scotland.

The figures bring together statistics published in the last year by Transport Scotland and the Department for Transport.

They show that a total of 2.9m motor vehicles were registered in Scotland in 2015 and 83% of all vehicle registrations were cars. A distance of 45.4 billion vehicle kilometres was travelled on Scottish roads in the same period, which was a slight increase on the previous year. Cycle traffic, meanwhile, decreased by 7% in distance travelled to 342m vehicle kilometres during 2015 when the most recent statistics were measured.

Rail

Off-peak rewards on BART

Lightly edited from an article in CityLabs



San Francisco International Airport

Last year the San Francisco Bay Area became the first laboratory in North America for a [mass-transit incentives program](#), with the Bay Area Rapid Transit System (BART) offering rewards to commuters who shifted their morning commutes away from the peak rush.

The incentive model is based on the economic concept of nudging, wherein even a small reward can lead to adjustments in behaviour.

The six-month trial program ended in February, and the results are mixed, depending on your definition of “success.” On the plus side, about 18,000 people participated in the BART Perks initiative, earning points which could be exchanged for cash whenever they rode the train. Participants took home an average of \$3 a month, though 10 netted \$100 or more.

On the negative, an average of 250 people a day actually switched their commute to avoid the packed 7:30 to 8:30 morning rush hour—only 10% of the total number of Perks participants who rode to work in the morning. The behavioural change removed the equivalent of two train cars’ worth of bodies daily, but did not result in noticeable crowding reduction.

BART concludes that, “To achieve even greater levels of rider shifting, future travel incentives programmes would need to be designed to better target individuals who are frequent riders during the busiest periods on the transit system.”

Transit incentives have shown decent results outside of the U.S., reducing system crowding [in Singapore](#) and Bangalore. Whether the Bay Area will revive its Perks program, which was mostly funded by a Federal Highway Administration grant, is unknown. The San Francisco County Transportation Authority and BART are still evaluating the initiative’s results, and will determine how to proceed when their investigation is completed later this year.

BNSF performance 2016

Edited from an article in Progressive Railroading

BNSF Railway Co. reported that fourth-quarter 2016 revenue, operating income and net income all declined compared with the same quarter in 2015. In Q4 2016, total revenue slipped 2% to \$5.3 billion, operating income fell 8% to \$1.8 billion and net income decreased 8% to \$993 million compared with the previous year's quarter.

For the full year, total revenue dropped 10% to \$19.8 billion, operating income fell 13% to \$6.7 billion, and net income fell 16% to \$3.6 billion compared with 2015's results.

BNSF attributed the decrease in earnings for the quarter and full year to "continued decline in demand, in particular in coal and crude oil businesses."

The railroad also reported an operating ratio of 65.1% for Q4 2016 compared with 62.6% for Q4 2015, and 65.5% for full-year 2016 compared with 64% in 2015.

Among the business unit highlights for fourth-quarter and full-year 2016:

- Higher domestic intermodal volumes and the addition of a new automotive customer helped boost consumer product volumes 3% and 1% for Q4 and full year, respectively, compared with the same periods in 2015.
- Industrial products volumes fell 9% and 8% for Q4 and full year, respectively, compared with the same results in 2015. The primary cause was lower petroleum products, reflecting pipeline displacement of US crude rail traffic and lower oil production. In addition, there was lower demand for steel. The full year volume decrease was partially offset by increased plastics products volume.
- Higher corn, soybean and wheat exports helped lift agricultural products volumes, which rose 5% and 6% for Q4 and full year, respectively, compared with 2015's volumes.
- Coal volumes were down 4% for Q4 and 21% for the full year compared with 2015 levels. The Q4 decline was primarily due to coal retirement and high coal stockpiles, while the full year decline was due to those factors as well as lower demand driven by reduced energy consumption and low natural gas prices during the first half of 2016.

BNSF's operating expenses rose 2% in Q4 2016, but fell 8% for the full year compared with expenses in the previous year.

The railroad spent \$3.9 billion on capital expenditure in 2016, the largest component of which supported maintenance and replacement of BNSF's core network and related assets.

BNSF has committed \$3.4 billion for its 2017 capital expenditure. The capex program will continue to focus on maintenance and replacement of the network and related assets to ensure a safe and reliable network. In 2017, that component is expected to cost \$2.4 billion. Those funds will primarily go toward replacing and upgrading rail, rail ties (sleepers) and ballast, as well as maintaining rolling stock.

The company plans to spend \$400 million on expansion projects, \$100 million for continued implementation of positive train control and \$400 million for locomotives, freight cars and other equipment acquisitions.

Level crossing and trespass fatalities on US railroads

From Progressive Railroading

The number of vehicle-train collisions at U.S. railroad crossings fell 2.4% in 2016, but the number of fatalities increased 13.7% compared with 2015, Operation Lifesaver Inc. (OLI) announced recently.

The number of deaths due to trespassing on train tracks rose 12.8% last year compared with 2015, according to preliminary statistics from the Federal Railroad Administration (FRA) Office of Safety Analysis.

In 2016, U.S. crossing collisions fell to 2,025 from 2,075 in 2015; crossing-related fatalities rose to 265 from 233; and crossing injuries dropped 22.7% to 798 from 1,032, according to an OLI press release.

Trespass deaths and injuries climbed to 994 in 2016 from 868 in 2015; trespass deaths rose to 511 from 453; and trespass injuries grew to 483 from 415.

Swedish railways 2016

From International Railway Journal



SJ train at Marsta, near Stockholm Arlanda Airport

The Swedish national train operator SJ is planning to accelerate investment in the modernisation of its train fleet as rising demand continues to strengthen the company's revenues and profits.

According to SJ's annual results for 2016, which were published on February 15, net sales grew 3.1% year-on-year to SKr 9.34bn (\$US 1.04bn) while operating profits soared to SKr 837m, compared with SKr 212m in 2015. Net profit climbed 38% to SKr 650m.

SJ's customer satisfaction index score rose from 66 to 70, while punctuality improved slightly on both long-distance services (up 1% to 83%) and regional trains (up 1% to 90%). Passenger numbers increased by 2% year-on-year with 5% growth in the fourth quarter.

Over the next five years SJ is planning to invest SKr 9bn in the modernisation and renewal of its train fleet. SJ says it has made a strategic decision to prepare for the procurement of 30 new long-distance trains, in addition to the modernisation of the X2000 fleet, which is already underway, and a major refurbishment of rolling stock used on overnight services.

US freight railroad statistics



Freight wagons near Washington DC

A report in the Financial Times for 1 March showed charts of speeds (for train movements between terminals) and terminal dwell time (average number of hours a railroad car sits at a terminal). This came from the website railroadPM.org, which publishes weekly performance measures for the big North American railroads.

For Q1, 2016 (giving a historical comparison) the figures are as follows.

Railroad	Speed (miles/hour)	Terminal dwell time (hours)
BNSF	28.3	26.5
CN	26.6	14.5
CSX	21.2	26.5
KCS	28.0	21.2
NS	23.6	25.3
UP	27.3	28.6

There is much variability in the data (which can be broken down by type of traffic (speed) and terminal (turnaround time)).

Looking at Norfolk Southern, for example, intermodal trains are fastest (29.3 miles/h) and coal unit trains slowest (18 miles/h). Dwell time at Roanoke, Virginia is 37.9 hours and at Atlanta, Georgia, a mere 15.4.

Air

ACI Report for 2016

Whether it was caused by Brexit, the American presidential election, or the hostilities in Syria, the spectre of economic uncertainty permeated the global economy and the aviation sector throughout 2016. The increased rhetoric about protectionist policies in some Western countries also threatens the trend toward increased air service liberalisation, otherwise known as Open Skies.

Yet aviation is characterised by its ability to adapt and recover from adversity irrespective of the event or circumstance. Microeconomic factors that are present across the industry, which include heightened competition with the increased presence of low-cost carriers coupled with historically low jet fuel prices, have acted as catalysts to stimulate demand through lower fares. Since the end of the 2009/10 recession, global passenger traffic has risen 5.5% year on year - a testament to air transport's resilience.

In 2016, the world in general and the industry in particular experienced terrorist attacks around the globe, including at Istanbul Atatürk Airport and Brussels Airport. These represented a setback for aviation in these countries but the net effect on air transport demand in Europe was minimal. While passenger traffic was reduced at those airports in the months following the attacks, the versatility of the overall air transport sector was apparent through departure and destination switching on the part of passengers. The array of connecting options at airports across Europe and the Middle East for medium and long haul flights allowed passengers to quickly substitute connecting airports on their journey.

Passenger traffic

Global passenger traffic grew 7.3% in December 2016 and 5.5% for the year as a whole. The fact that Christmas and the Gregorian New Year holidays fell on a weekend partly accounted for the boost in traffic for the month of December. International passenger traffic grew faster than domestic in 2016 (6.5% versus 4.9%). All regions except Africa posted growth in passenger volumes for the year, ranging from 2.2% in Latin America-Caribbean region to over 9.0% in Asia-Pacific and Middle East regions. African passenger traffic dropped by 1.9%. The mature markets of Europe and North America grew 5.0% and 3.9% respectively for 2016 and continued to be well above the regions' historical growth levels.

Air freight traffic

Air freight markets experienced a revival in the second half of 2016. Volumes increased 3.5% for the year as a whole with a dramatic jump of 8.9% for the month of December.

December and annual U.S. airline traffic data for 2016



Chicago O'Hare Airport

Lightly edited from <https://www.bts.gov/newsroom/2016-annual-and-december-us-airline-traffic-data>, which has much more data.

The U.S. Department of Transportation's Bureau of Transportation Statistics (BTS) reported today that U.S. airlines carried an all-time high number of passengers in 2016, surpassing the previous highs reached in 2015. The airlines also set all-time annual highs for systemwide, domestic and international revenue passenger miles (RPMs) and available seat-miles (ASMs). Although passenger trips handled by airlines reached an all-time high in 2016 there were more empty seats available because airlines increased capacity at an even greater rate. Load factor – the measure of the use of airline capacity – declined from previous years. The annual load factor declined from 2015 (83.8%) to 2016 (83.4%) because system capacity grew faster (3.9% increase in ASMs) than the growth in passenger travel (3.5% increase in RPMs).

Systemwide passenger enplanements (823.0m) reached an all-time annual high, up 3.1% from the previous high (798.2m) reached in 2015. Domestic passenger enplanements (719.0m) reached an all-time annual high, up 3.3% from the previous high (696.0m) reached in 2015. International passenger enplanements (103.9m on US airlines) reached an all-time annual high, up 1.7% from the previous high (102.2m) reached in 2015.

Systemwide RPMs (933.5 bn) reached an all-time annual high, up 3.5% from the previous high (902.2 bn) reached in 2015. Domestic RPMs (660.0 bn) reached an all-time annual high, up 4.7% from the previous high (630.7 bn) reached in 2015. International RPMs (273.5 bn) reached an all-time annual high, up 0.7% from the previous high (271.6 bn) reached in 2015.

Systemwide ASMs (1,118.9 bn) reached an all-time annual high, up 3.9% from the previous high (1,077.0 bn) reached in 2015. Domestic ASMs (780.0 bn) reached an all-time annual high, up 5.1% from the previous high (741.9 bn) reached in 2015. International ASMs (338.9 bn) reached an all-time annual high, up 1.1% from the previous high (335.1 bn) reached in 2015.

Systemwide load factor (83.4%) was down 0.4 points from the all-time annual high (83.8%) reached in 2015. Domestic load factor (84.6%) was down 0.4 points from the all-time annual high (85.0%) reached in 2015. International load factor (80.7%) was down 0.3 points from the 2015 load factor (81.0%) and down 1.6 points from the all-time annual high (82.3%) reached in 2013.

January worldwide air traffic

Edited from an ACI report

High traffic growth at the end of 2016 continued into January 2017. Overall passenger traffic in January grew 7.7% compared to the same month last year, boosted by the Chinese New Year. Many airports across China and other parts of Asia experienced a surge in passenger traffic compared to the previous year, when the Chinese New Year fell in February.

International travel continued to show relatively higher growth than domestic, with increases of 9.4% and 6.5% respectively for January. Except for Africa, all regions reported strong gains in passenger traffic.

Most of the buoyant activity in passenger traffic stemmed from double-digit growth rates in the Asia-Pacific region, with gains of 11.5% for January. Both Chinese and Indian airports have some of the fastest growing domestic markets on the globe. Guangzhou (CAN) and Shanghai (PVG), two of the largest Chinese commercial airports, experienced a growth rate in passenger traffic of 17.0% and 11.3% respectively. Delhi (DEL), the busiest Indian airport, increased 21.0% in January. The Middle East region followed with an increase of 9.3% in passenger traffic.

Both Mexico City (MEX) and Cancun (CUN), two of the region's busiest airports, saw passenger traffic increase 13.3% and 12.6% respectively. On the other hand, Brazil remained in a weakened recessionary state, as passenger traffic contracted 5.7% at Sao Paulo (GRU), the country's busiest airport. Most of this drop is attributed to domestic traffic where passenger numbers drop 8.4%.

With the UK being one of the largest aviation markets in the world, its exit from the European Union raises the question of what impact this will have on the sector and the European single aviation market. Nonetheless, the strengthening of macroeconomic fundamentals across many European economies and the expansion of the low cost carrier business model allowed business in Europe to continue as usual. Airports in the region saw an overall increase of 9.0% in passenger traffic in month of January. Irrespectively, pockets of weakness still persisted in non-European Union markets.

After the American election, the North American economy continued to benefit from strong consumer spending which further fuelled gains in passenger traffic. North American passenger traffic grew 3.7.

While air freight volumes continued to gain momentum, with a spillover effect in 2016, the Chinese New Year, which had a tremendous impact on air freight shipments, distorted the figures and year-over-year comparisons. Volumes as a whole increased 5.7% in January. International freight volumes continued to post relatively higher growth with an increase of 9.5%, whereas domestic traffic dropped 2.8% for the month of January. Again, this drop in domestic traffic was largely the result of business closures in the Asia-Pacific region during the Chinese New Year.

Seasonality of air travel

There was a very interesting analysis of traffic seasonality at Mediterranean airports, among European new entrant carriers and European legacy carriers on [anna.aero](#) recently. Find more [here](#).

Road

Record high for U.S. traffic volume – pressure on infrastructure

Lightly edited from AASHTO Journal



New Jersey Turnpike near Newark

The Federal Highway Administration said new estimates for vehicle miles travelled show that traffic volume on U.S. roads rose 2.8% in 2016 to a new record high of more than 3.2 trillion. The FHWA said this "underscores the demands facing America's roads and bridges, and reaffirms calls for greater investment in surface transportation infrastructure."

The data from the FHWA's latest "Traffic Volume Trends" report – a monthly estimate of U.S. road travel – show that U.S. drivers accumulated 87.5 billion more vehicle miles last year than in 2015.

The report showed that they drove more than 263.6 billion vehicle miles in December, for a 0.5% rise from December 2015.

This latest evidence of increasing traffic pressure on U.S. roads and bridges comes as states await their 2017 federal highway and transit funding increases for 2017, which Congress had authorized and paid for in the 2015 Fixing America's Surface Transportation Act. For the budget year that began October 1st Congress has twice frozen most federal spending at 2016 levels pending a final budget accord.

The current budget extension expires on 28th April. If there is agreement on a full-year budget by then, Congress could clear the way for state departments of transportation and transit agencies to receive their 2017 funding increases in addition to 2016 funding levels they have been able to use so far.

The FHWA report also comes as President Trump continues to talk about his goal of getting Congress to approve a major infrastructure investment program – details still pending – over the next decade that would route about \$100 billion more each year into transportation and other projects that would help improve mobility and replace aging facilities.

Trump told an audience at a rally in Florida in February that "we need members of both parties to join hands and work with us to pass a \$1 trillion infrastructure plan to build new roads, and bridges, and airports, and tunnels, and highways and railways all across our great nation."

Local bus journeys in England



London bus at Paddington

DfT recently published some tables on local bus service use. I looked at BUS0110, bus journeys/head by local authority within region.

Regional figures vary a lot – London is the great outlier, at 264.3 journeys/head in 2015/6 (down from 276.8 last year and 280.6 the year before that). Contrast this with 68.6 in the North East, 42.3 in the East Midlands and 29.9 in the East of England.

Looking at individual districts, highs are in Brighton & Hove (159), Nottingham (149) and Reading (126): lows are in Central Bedfordshire (12), Herefordshire (13) and Cheshire East (14).

Table BUS0113 gives data on concessionary fare usage – in millions, and as a percentage of total ridership. Concessionary fare ridership is universally down between 2014/5 and 2015/6 – in England, from 1036m to 1006m. London (340m) is less dominant: concessionary fare ridership is over 100m in the North West and South East, and just under that in Yorkshire & Humberside.

Ridership on concessionary fares is between a quarter and a third of all bus journeys – except in London, where it is 15%, a figure which has been constant for some years. This presumably brings down the national average (for England) to 22% (again, this has been constant for some years).

Uber is making NYC gridlock worse

Lightly edited from <http://nyc.streetsblog.org/2017/02/27/its-settled-uber-is-making-nyc-gridlock-worse/>

The controversy over Uber's impact on Manhattan traffic has been settled. Uber, Lyft, and other app-based ride services are unequivocally worsening gridlock in the Manhattan core as well as northern Manhattan and the western parts of Queens and Brooklyn, according to [a report released recently by transportation analyst Bruce Schaller](#).

The new ride services, known as transportation network companies, or TNC's, last year caused a net increase of 600 million vehicle miles travelled in the five boroughs – a 3 to 4% jump in citywide traffic, Schaller found. This trend marks a troubling inflection point – for the first time in many years, car-based services, not transit, account for most growth in travel.

To head off a downward spiral of increasing traffic and declining transit use, it's incumbent on Governor Cuomo and Mayor de Blasio to prioritize projects with wide-ranging impacts on the transportation system: subway signal upgrades, citywide off-board fare collection for buses, a comprehensive expansion of bus lanes and transit priority at intersections, and road pricing that factors in the impacts of TNC's.

In 2013, the last year before Uber's presence was felt, the use of subways, buses, and bicycles grew substantially. But by 2016, net growth in travel by Uber and other TNC's far outstripped growth in those modes.

Ridership changes (m)	2016 on 2015	2013 on 2012
Subway	-5	+50
Bus	-12	+15
Ride services	+27	-2
Bike	+8	+20
Ferry	+2	0

Most of the upsurge is occurring outside the city's Central Business District (Manhattan below 60th Street), Schaller reports. Nevertheless, he identifies growth in use of TNC's as a prime cause of the 11% slowing of traffic in the Manhattan CBD from 2013 to 2016 noted in the mayor's management report last September.

Schaller is highly regarded in transportation circles, and his report – "Unsustainable? – The Growth of App-Based Ride Services and Traffic, Travel and the Future of New York City" – will be widely read and carefully studied. Before serving as a top deputy

to transportation commissioners Janette Sadik-Khan and Polly Trottenberg, Schaller's career included stints at MTA NYC Transit and the city's Taxi and Limousine Commission, and his annual *NY Taxicab Fact Books* made him the go-to expert on for-hire vehicles.

In his new report, Schaller set out to determine not just how fast Uber and the TNC sector have grown, but which modes they are displacing. Here are some key findings (expect a full write-up of this report in next month's issue):

- In a marked reversal from the transit-oriented growth that lasted from 1990 to 2014, growth in for-hire vehicle use is outstripping growth in transit ridership, making it the city's leading source of growth in non-auto travel.
- The estimated 7% net addition to vehicle mileage caused by TNC's in Manhattan, western Queens, and western Brooklyn is the same magnitude as the decrease in vehicular travel that was expected from the 2007 Bloomberg congestion pricing proposal.
- These trends only became apparent in the last year and a half, as TNC ridership tripled between June 2015 (the end of the period that City Hall examined in its December 2015 for-hire-vehicle transportation study) and autumn 2016.

These developments are virtually certain to continue, Schaller asserts, fuelled not just by the convenience, dependability, and cachet of Uber and other TNC's, but by their low fares. Traditionally, a ride in a taxicab was four to five times as expensive as a subway or bus ride, which acted as a brake on usage. Now, however, "TNC fare offerings for shared trips during rush hour in Manhattan put TNC fares at less than twice the transit fare, dramatically weakening the disincentive to travel by auto," Schaller concludes.

The resulting "reversal from transit-led to TNC-led growth in travel," as Schaller characterizes it, "will have profound implications for the city's transportation network if current trends continue."

The app-based ride services were expected to confer an efficiency upgrade as they replaced taxi cruising (driving between fare trips) with swift arrival of the nearest available vehicle. Instead, deadheading is more prevalent with TNC's, as Schaller found by painstakingly examining trip records available from the Taxi and Limousine Commission. Whereas taxi cruising tends to add seven to eight miles for each 10 miles of fare trips, the app-based vehicles tack on 12 to 13 miles. The difference is a big force-multiplier to gridlock.

The prospect of unconstrained growth in TNC traffic – and the concomitant worsening of gridlock and rise in emissions – lends new urgency to efforts to improve subway and bus performance.

Instead of dubious projects like Cuomo's AirTrain to LaGuardia and de Blasio's Brooklyn-Queens streetcar, the city's political leadership needs to shift focus and deliver projects that will speed up the transit system as a whole. Modernizing subway signals to allow trains to run closer together, speeding up bus boarding with off-board fare collection, and prioritizing transit on city streets are "far more critical than headline-grabbing but low-ridership distractions like the LaGuardia AirTrain and BQX streetcar," Schaller says.

The report also "raises the need to return to the subject of road pricing," he writes. The Bloomberg congestion pricing proposal won't suffice, he notes, since it would have let for-hire vehicles operate all day and run up congestion costs while paying just one toll.

The [Move NY plan](#) devised by traffic guru and former City Traffic Commissioner Sam Schwartz surmounts that problem via the on-board GPS now found in all TNC vehicles as well as yellow and green taxis. Charging for-hire vehicles by the mile and by the minute in the “taxi exclusion zone” (south of 110th Street on the West Side, and 96th Street on the East Side), as Schwartz proposes, would discourage their use and also add to revenues to finance transportation improvements.

Read Schaller’s [report](#) and take the time to digest its implications. It touches on virtually every consequential transportation trend and policy question facing the five boroughs and stands as the most thoughtful and thorough analysis of New York City traffic and transportation issues since the Bloomberg years. Give it a deep dive, and join me in congratulating Bruce for advancing the discussion on many fronts.