

TSUG

Transport Statistics Users Group

Monthly Review: February 2018

This month's review has shown that San Francisco had a record low of 20 traffic fatalities in 2017, making progress towards its Vision Zero goal. US air traffic in 2017 rose by 3.4%. According to an ACI World report, air passenger traffic rose 6.4% in October 2017 compared with October 2016. Tibet saw a record 4.51m air passengers in 2017, up 11.9% from the previous year. Chinese carriers transported 549m passengers in 2017, up 12.6% from 2016. Norwegian carried 33.15m passengers in 2017, up by 3.8m compared with 2016. There are 179 PSO supported air routes in EU. Please note the Letter to the Editor. Also we have got 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-21-Feb	TfL	Northern Powerhouse & UK Transport Issues
Wed-21-Mar	TfL	EU Wide Comparative Statistics

The seminars can be booked through the TSUG website at www.tsug.org.uk/seminars.php **See Page 6 for an important message about the venue for the March event.**

Statistics Digest

STATISTICS DIGEST February 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	
18 Jan 2018	18 Jan 2018 Walking and cycling in England: 2015 to 2016 https://www.gov.uk/government/statistics/walking-and-cycling-statistics-england-2016
18 Jan 2018	National travel survey: 2016 (part 2) Analyses from the National Travel Survey https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/674568/analysis-from-the-national-travel-survey.pdf
18 Jan 2018	Road conditions in England: 2017 https://www.gov.uk/government/statistics/road-conditions-in-england-2017

Forthcoming releases from Department for Transport	
1 Feb 2018	Renewable Transport Fuel Obligation: Year 9 (2016 to 2017) report 6 https://www.gov.uk/government/collections/biofuels-statistics
1 Feb 2018	Renewable Transport Fuel Obligation: Year 10 (2017 to 2018) report 2 https://www.gov.uk/government/collections/biofuels-statistics
8 Feb 2018	Reported Road Casualties in Great Britain, provisional estimates for accidents (provisional) involving illegal alcohol levels: 2016 https://www.gov.uk/government/collections/road-accidents-and-safety-statistics
15 Feb 2018	Blue badge scheme statistics 2017 https://www.gov.uk/government/collections/disabled-parking-badges-statistics
21 Feb 2018	Provisional sea passenger statistics: 2017 https://www.gov.uk/government/collections/maritime-and-shipping-statistics
28 Feb 2018	Travel time measures for the Strategic Road Network and local 'A' roads: January 2017 to December 2017 https://www.gov.uk/government/collections/road-congestion-and-reliability-statistics
March 2018	National Travel Survey factsheet https://www.gov.uk/government/collections/national-travel-survey-statistics
April 2018	Road freight statistics: July 2016 to June 2017 https://www.gov.uk/government/collections/road-freight-domestic-and-international-statistics
April 2018	Road freight statistics: October 2016 to September 2017 https://www.gov.uk/government/collections/road-freight-domestic-and-international-statistics

Forthcoming releases from Department for Transport

May 2018 | Provisional road traffic estimates, Great Britain: April 2017 to March 2018

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

Release from Office for National Statistics

18 Jan 2018 | Family spending in the UK: financial year ending March 2017

<https://www.ons.gov.uk/releases/familyspendingintheukfinancialyearendingmar2017>

Seminar Write-up

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

TSUG 17 January 2018 – Fuel Consumption & Emissions

Q&A Sessions

By Andrew Sharp

Tim Chatterton, Hybrid & electric vehicles

David Metz, UCL – the ‘hybrid’ category is quite varied and has been around for a long time. The ability to plug in may be an explanatory factor behind low take-up.

Not yet looked at in detail: this is the next stage. Certainly those living in terrace houses and flats (inner city areas) are unlikely to be able to charge at home. Hybrid and electric vehicles form a small proportion of the total fleet, owned by ‘early adopters’: they are not mainstream yet.

John Cartledge, London Travelwatch. The scatter charts show much clustering with some dramatic outliers.

Agreed. The outliers are interesting! The statistics were put together in a hurry (because of Christmas and staff illness) so were not triple-checked. Corporate registrations may account for some of the odd data.

Simon Lister, TSUG. North Norfolk and Lincolnshire show high ownership – why? Gentrification, especially in North Norfolk.

Vincent Stops, London Travelwatch. Uber, using hybrids, is very prevalent in London – is this a distortion?

Not much data yet.

Caroline Shield, Gateshead Council. There is no dominance of electric and hybrid vehicle ownership in areas where they are made: these areas still show much ownership of internal combustion engine vehicles.

Not got to the bottom of this. Possibly it doesn’t stand out because the percentage of electric and hybrid vehicles in the total fleet is still very low.

DfT – Trends in fuel consumption and emissions

Tim Chatterton, UWE, commented that there should be limited emissions by 2040: petrol and diesel hybrids would still be allowed, although no new all-diesel or all-petrol cars would be built.

Peter Gordon, TSUG. How do you measure emissions?

Some data from the Department for Business, Energy and Industrial Strategy (BEIS), some modelled. Some data is questionable: some sensors are not reliable, and monitoring sites feed into the modelling. It's too early to get much from NTS. It is known that there is a lower mileage/trip with electric and hybrid vehicles.

Tim Chatterton, UWE – he had found that plug-in hybrids were rarely plugged in!
John Cartledge, London Travelwatch, asked what the 'deliveries' figure was.
It's delivery of refined fuel to forecourts.

John commented that a high proportion of particulates came from tyres and brakes, so controlling vehicle emissions was of limited value.

Steven Salmon, CPT commented that data on imports of fuel were affected by the way crude oil was refined. Each type – heavy, light, low sulphur – could be 'cracked' into different fractions (jet fuel, petrol), but there were limits on what could be got out of each type depending on the physical composition of the specific cargo of oil and its origin.

George Beard TRL. Do we know if these are main or second cars?

No – we only know the postcode where the registered owner lives. It is thought that initially they were bought as second cars, but are being 'promoted' because they are much cheaper to run and range is less of an issue than was once thought.

Russell Fowler, the National Grid's future energy scenarios.

Jamie Dallen, WSCC, asked about support for a charging network and for ideas on modelling.

A charging network is coming – work in progress.

Vincent Stops, London Travelwatch. The presentation shows the view of the grid and the generators, but what about local distribution networks – are they up to the job?

Working on it, together with plans for a decarbonised future.

Tim Chatterton, UWE, asked about the tax revenue implications. At present, 80% of the price of fuel is tax: 5% of the cost of electricity is tax.

It would be a brave politician who sorted this out! Assumptions are that the wholesale price of electricity would go down but the retail price would rise – there are variations between scenarios

George Beard TRL asked if wireless charging was an option.

There have been some trials, but it is very early to say. Some public transport (wireless trams, Heathrow pods) use the technology, but this is on fixed routes.

Simon Lister, TSUG, asked about supply arrangements under different scenarios.
It all works – there is a different mix of sources for different scenarios.

David Metz, UCL asked about the demand profile for electricity if domestic heating changed to electricity.

Under the 2° scenario, there is decarbonised heating and transport. This depended on technologies like heat pumps, gas with lower carbon content and carbon sequestration.

David asked about hydrogen – long term: a mix of technologies is needed.

We have finite resources: we should invest in chargers where they can be used, where there are houses with driveways. This might imply subsidies to home and local authority chargers. London may be a low priority because of the preponderance of apartments and terraced housing, but this would be a matter for government.

Tim Chatterton, UWE – the solution in urban areas may be car clubs.

General News

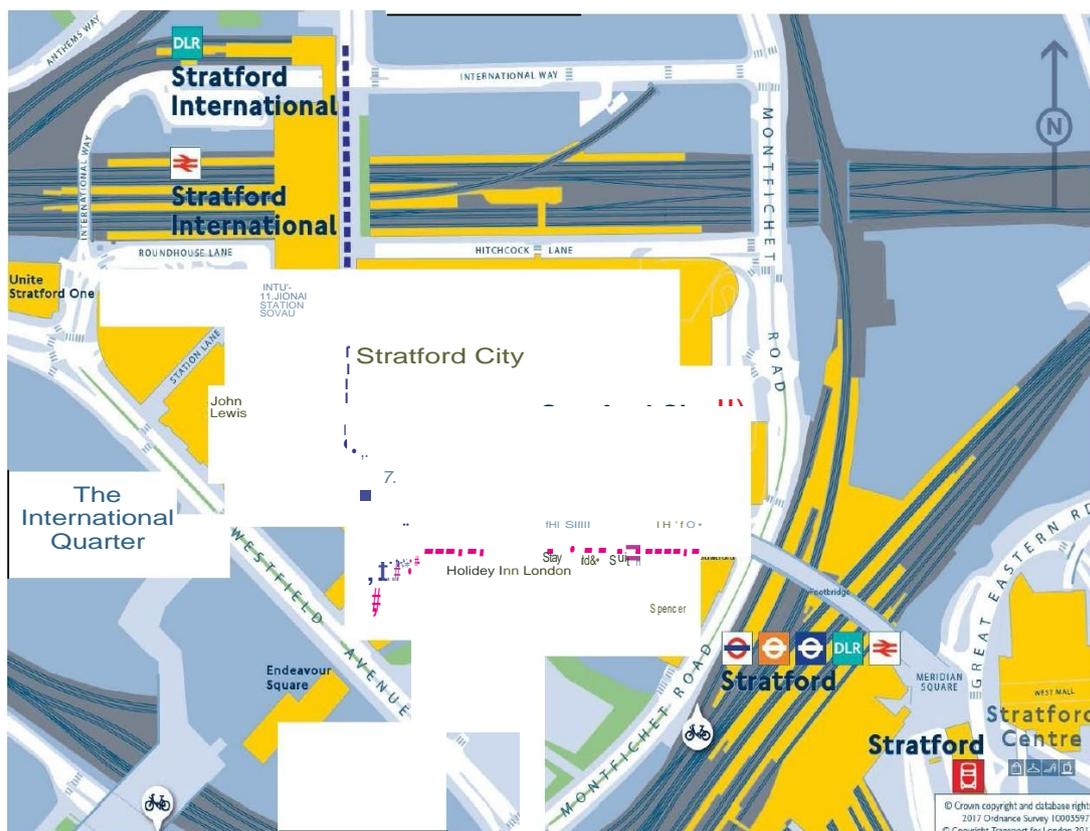
Letter to the Editor

Dear Editor

Could you give the March seminar good publicity, as we have two speakers from continental Europe coming specially to talk to us. Also, could you publicize the new venue at **Endeavour Square**, Stratford, and use the map to show people how to find it.

Regards

Kit Mitchell



New Venue of TfL: **Endeavour Square**, Stratford

Goods lifted by Mode



Freight Train at Princes Risborough

DfT issued updated statistics on freight carried by mode (TSGB0401) in mid December – both goods moved (tonne-km) and goods lifted (tonnes). Both series have a number of methodological breaks, so multi-year comparisons are not wholly reliable. Among other things, pipeline data drops out in 2012 (when it was 10bn tonne-km and 148m tonnes).

Goods lifted, at 2.069bn tonnes, exceeded

the 2bn level for the first time since 2008. It was 2.203bn in 1989 and 1.701bn in 2009: it has fluctuated fairly randomly between these points.

Road accounts for the bulk of both tonnes and tonne-km – 170bn tonne-km of the 218bn total for 2016 (78%), and 1887bn of the 2069bn tonnes lifted (91%). Rail figures were 17bn tonne-km and 79m tonnes lifted (8% and 4%), and water 30m tonne-km and 102bn tonnes lifted (14% and 5%).

Water has carried more tonne-km than rail since 1966, and really diverged (grown) since the late 1970s. In terms of tonnes handled, water overtook rail in 1988 and has stayed slightly ahead except in 2012-2014.

Rail

Dynamic Headways in Copenhagen

From Railway Gazette International



Metroselskabet, operator of Copenhagen's automated metro, is working with Ansaldo STS to develop dynamic headway technology for the system. This would use sensors at stations to detect the number of passengers and make real-time adjustments to the schedules.

The concept would be particularly valuable when major events lead to major increases in passenger numbers.

Metro at Copenhagen Kastrup Airport

Estimation of Station Usage 2016-17: Methodology and Validation Report

This was published by Steer Davies Gleave for the Office of Rail and Road (ORR) at the end of November. It accompanies the annual spreadsheet showing estimated main line rail station usage in Great Britain, on the ORR website.

It is well worth studying – partly to look at the methodology used to assess station usage in such detail, but also to look at the limitations and changes from last year.

Apparently users value consistency with previous years, but they value accuracy even more – so methodological changes continue to be made to improve the accuracy. This involves things like the allocations to ‘London Terminals’, Rover tickets and the like, some of which stem from local user groups commenting (and, by survey, proving) that the figures for a specific station can’t be right!.

The accuracy of data for airport stations in particular – of specific interest to me – is variable, and a year-on-year change in numbers is sometimes dependent on allocation changes rather than real ones. This needs to be watched. And I was aware that Heathrow Express passengers are not included (because ticket sales do not go through national systems) : what I wasn’t aware of until I read the methodological report was that the Heathrow stations are actually on the spreadsheet, but right at the end and containing no data! And, no doubt, with TfL Rail serving at least two of them from May, this will be different in the next report.

Memoranda of Understanding on Rail Statistics

From TRAN newsletter January 2018

Exchange of views with Eurostat, the European Union Agency for Railways (ERA) and DG MOVE

In the context of its work on the revision of the Regulation of Rail transport statistics, the TRAN Committee had an exchange of views with Eurostat, the Commission (DG MOVE) and the European Union Agency for Railways (ERA). In order to conclude the inter-institutional negotiations on the previous revision of the Regulation on Rail transport statistics in 2016, the European Parliament insisted on better cooperation between Eurostat, ERA and DG MOVE to share data and provide easy access to this data. As a consequence, the memoranda of understanding between these institutions were revised. Eurostat explained that on this basis, administrative arrangements have been signed and action plans defined.

Members reiterated the importance of having comprehensive, accurate and reliable statistics on freight and passenger rail transport as a basis for better law-making, and adequate funding of transport policy and priorities. They expressed disappointment about the attitude of some Member States not ready to provide data on rail, in particular regarding passengers' movements.

Members welcomed the efforts of the institutions to collaborate in the collection of reliable statistical data on the basis of harmonised procedures. They insisted on the fact that data should be available from a central point and be user-friendly. In this context, they recalled the importance to get statistical data on European Rail Traffic Management System and on the cross-border railway sections.

The base document seems to be Regulation (EC) 91/2003, amended by Regulation (EU) 2016/2032.

North America Rail Freight

From Progressive Railroading

U.S. rail traffic for 2017 rose 3.4% to 27,489,960 carloads and intermodal units compared with traffic in 2016, according to the [Association of American Railroads](#) (AAR). Carload traffic for the year climbed 2.9% to 13,478,126 units in 2017, while intermodal traffic increased 3.9% to 14,011,834 units for the year compared with 2016, according to an AAR press release.

Last month (December), U.S. railroads originated 2,064,133 carload and intermodal units, a 4% increase over the same month in 2016. Carload traffic last month grew 2.5% to 998,168 units, while intermodal volume grew 5.3% to 1,065,965 containers and trailers compared with the same period in 2016.

Categories that posted year-over-year increases in December 2017 included crushed stone, sand and gravel, up 15,632 carloads or 23.1%; metallic ores, up 6,875 carloads or 35.2%; and chemicals, up 4,277 carloads or 3.5%.

Commodities that logged year-over-year decreases last month included grain, down 5,542 carloads or 6.1%; motor vehicles and parts, down 2,625 carloads or 4.1%; and nonmetallic minerals, down 1,424 carloads or 8.9%.

Excluding coal, carloads grew 3.6% last month from December 2016. Excluding coal and grain, carloads rose 5.2%.

Meanwhile, Canadian railroads reported cumulative traffic of 7,570,747 carloads, containers and trailers in 2017, a 10.6% gain over traffic in 2016.

Mexican railroads logged 1,427,306 carloads and intermodal containers and trailers in 2017, up 2% over traffic reported in 2016.

Subways and Urban Growth: Evidence from Earth

This interesting and detailed report was published by Gonzalez-Navarro & Turner on 30/5/17

(http://www.brown.edu/Departments/Economics/Faculty/Matthew_Turner/papers/unpublished/GonzalezNavarro_Turner_unp2016.pdf). It investigated relationships between the extent of a city's subway network and its population, transit ridership and spatial configuration. The summary below hardly does it justice.

The research, which among other sources used kilometre-square light emission data, was inevitably affected by the problem of definition. The authors define subways as electrically-powered urban rail completely isolated from interactions with road traffic and pedestrians – so street-running light rail and heavy-rail commuter lines are excluded.

Highlights I picked up are as follows.

In an average city with a subway, there are 0.67 stations/km² within 1500m of the centre, 0.22 stations/km² between 1500 and 5000m, 0.07 stations/km² between 5 and 10km from the centre, and .001 stations/km² between 10 and 25 km from the centre. Station density decreases rapidly with distance.

Of the 347 largest cities in Asia, 53 (15%) have subways. In Europe, more than 2/3 do while in North America it is 1/3. In South America it is 25%.

Average population growth during the 5 years following opening of a subway system is about 8%: during the 5 years before, it is around 12%.

The time-series evidence suggests that subway networks do not cause changes in the population of cities.

Cities with larger subway systems tend to have more transit riders, more subway riders and more bus riders. Subway expansion leads to a growth in ridership (the elasticity is 0.61) but no change in bus ridership. Research is cited demonstrating

that an increase in highway kilometres leads to large increases in driving – mostly generated.

Air

Airport Passenger Traffic

Airports Council International (ACI) World reported global airport passenger traffic up 6.4% in October 2017 compared to October 2016, significantly higher than the September comparison figure of 5.1% growth. Passenger traffic grew 6.4% in the year to October 2017. Based on the trend, ACI expects the global passenger market to achieve an annual growth rate of 6.5% in 2017, about the same rate as 2016.

Freight volume gains have reached +5.3% year-over-year. Air freight numbers are likely to exceed 7% global growth by the end of 2017, almost double 2016's 4%.

Despite the strong overall rise, there were signs of moderating growth across several regions since September. Africa, Asia-Pacific and Europe showed significant traffic growth for the month compared to the same month last year, but North America, Latin America-Caribbean and the Middle East experienced more modest gains. The former reached +8.2%, +8.1% and +7.5% respectively, while the latter saw figures of +4.3%, +3.6% and +3.3%, respectively.

As in September, the impact of the 2017 hurricane season affected North America and Latin America-Caribbean. As well, growth was reduced in the Middle East amid continuing tensions in the Region, including air route restrictions on Qatar Airlines' operations into and out of Doha's Hamad International Airport (DOH). DOH itself recorded a drop of 18.3% in September's passenger traffic compared to the previous year and a drop of 14.3% in October. In the year to October 2017, the airport experienced a reduction of 2.9% in passenger traffic. On the other hand, DOH's freight volumes continued to increase, at the rate of 16.7% year-to-date.

Air France/KLM Q3 Financial Results

In the four quarters to Q3, 2017, Air France/KLM saw passenger revenues only slightly up on the previous four quarters. Passenger kilometres and available seat kilometre figures were the highest since my time series started in Q4, 2015: passenger numbers were significantly higher at 83m (compared with 79m).

The yield (revenue/passenger-kilometre) was flat at around €244: average flight length (revenue passenger kilometres/passenger) has been slowly trending down from 2983 (four quarters to Q4, 2015) to 2965 (Q3, 2017).

Air Traffic in Tibet

From China Aviation Daily

Tibet saw a record 4.51 million air passengers in 2017, up 11.9% from the previous year, the regional civil aviation administration said.

Tibet's civil aviation industry has been growing rapidly, becoming an important driver for the regional economy.

The region has five airports and 79 air routes, connecting with 42 cities in China and overseas.

In 2017, Tibetan airports handled 41,299 flights and 35,053 tonnes of cargo, up 6.9% and 16.1%, respectively, according to the administration.

Battery Powered Aircraft

There is a useful and interesting article on the potential at https://www.aerosociety.com/news/power-sources/?utm_source=The%20Royal%20Aeronautical%20Society%20e-communications&utm_campaign=5241a92b58-Jan_2018_newsletter&utm_medium=email&utm_term=0_01701ea34d-5241a92b58-292854945

Chinese Air Traffic 2017

From ATWonline



Chinese carriers transported an estimated 549 million passengers in 2017, up 12.6% from 487.6 million in 2016, according to the Civil Aviation Administration of China (CAAC).

Average on-time performance (OTP) for Chinese airlines dropped 5.5 points to 71% in 2017. However, OTP began to improve by year-

Cathay Dragon A330 at Hong Kong International Airport

end, reaching 85% for November. Industry analysts attributed this to regulator-imposed flight restrictions on total flight numbers—reduced by 3 points year-over-year (YOY) for 2017/2018 winter and spring season.

Chinese carriers transported a total of 7.1 million tonnes of cargo in 2017, up 6.6% YOY and 14.3% on international routes.

Looking to 2018, the CAAC forecasts total passenger boardings will grow 11.4% to 612 million and cargo traffic volume will increase 6.2% to 7.6 million tonnes.

In addition, the regulator said it is committed to optimizing traffic rights and slots allocation at major domestic airports as well as increasing the ratio of international routes from major hubs in 2018.

Last year, the number of international routes at Beijing Capital, Shanghai Pudong and Guangzhou Baiyun airports increased 4.7%, 5.5% and 16.9%, respectively.

Economic Performance of the Airline Industry

In early December, IATA published its end-year report, “Economic performance of the airline industry”. This gave actual figures for 2016, and some forecasts for 2017 and 2018. Previous editions – which are issued twice a year – have been reported on in this Review, and some of these past figures are included below.

	2014	2015	2016	2017	2018
Average return fare (2015 \$ for 2014 and 2015 then 2016 \$)	472	407	371	355	355
Passenger departures (m)	3328	3568	3810	4081	4311
RPKs (bn)	6216	6679	7164	7702	8167
Unique city pairs	17370	17746	18691	20041	n/a
Aircraft	25860	26788	27585	28992	30095
Scheduled flights (m)	33	34.8	35.4	36.8	38.6
Fuel cost (\$bn)			132	130	156
Fuel used (bn litres)	278	294	322	335	347
Litres/100 ATK			23.4	23.1	22.7
CO ₂ (mt)	739	781	811	844	874

Norwegian – Record Carryings in 2017

From ATWonline



Scandinavian low-cost carrier Norwegian carried a record number of passengers in 2017 as it continued to step up its long-haul program. It also announced that it was better prepared to cope with traffic peaks in 2018 and would not be leasing in extra capacity.

Norwegian carried 33.15 million passengers in 2017, a rise of 3.8 million on 2016, the company announced in early

Norwegian Aircraft approaching Gatwick Airport

January. The launch of 54 new routes—mainly between Europe and the US—contributed considerably to the growth.

Load factor for 2017 was 87.5%, marginally down on 2016's 87.7% figure, although the fleet grew substantially, with 32 new aircraft over the year.

Passenger figures for December 2017 continued the growth trend, with the company carrying 2.4 million passengers, up 12% from the same month in 2016. Both capacity growth (ASK) and traffic growth (RPK) were a substantial 32%. Load factor for the month was 84.6%, the same as December 2016.

In 2017, the rapidly growing airline had incurred unforeseen leasing costs of around NOK1 billion (\$124 million) after a spate of cancellations left passengers stranded in airports. Those problems, similar to those experienced by rival LCC Ryanair, led to a scramble by LCCs to recruit more senior pilots.

TSUG is hoping to have a speaker from Norwegian for our June seminar, but has so far had little success in getting a response from invitations. Anyone with a useful contact is requested to contact Andrew Sharp (airrailtoday@googlemail.com).

PSO Supported Sir Routes in the EU

There are currently 179 PSO supported air routes in the EU. They are in 13 member states (Croatia, Cyprus, Czech Republic, Estonia, Finland, France, Greece, Ireland, Italy, Portugal, Spain, Sweden and the UK).

Only 7 routes are international. The cost is estimated at €300m.

France has 40, used by 5.7m passengers/year.

In Ireland, 70% of domestic air traffic is on PSO-supported routes.

Road

San Francisco – Record Low Traffic Fatalities in 2017

From ktvu.com



PCC Streetcar on Fisherman's Wharf

San Francisco reported a record-low number of traffic deaths in the city in 2017 – demonstrating that its Vision Zero goal of making streets safer and eliminating traffic deaths by 2024 is on the right track. There were 20 fatalities on San Francisco streets last year, the lowest annual total since the city began keeping records in 1915. That number is 41% less than the total in 2013, the year before the city adopted the Vision Zero policy. Of the 20 deaths in 2017, 14 were pedestrians, a

34% decrease from 2013. The city said that its fatality numbers are moving in the opposite direction to national trends which show that traffic deaths are on the rise, particularly among pedestrians and cyclists.

The San Francisco Municipal Transportation Agency last year implemented more than 700 improvement projects on city streets, including bulb-outs at intersections, painted safety zones, speed humps and signal upgrades. San Francisco police have also emphasised traffic safety, issuing 38,193 traffic citations in 2017 for running red lights, running stop signs, violating a pedestrian's right-of-way, speeding, and failure to yield while turning - the five violations identified as being most often linked with traffic deaths and injuries.