# TSUG

Transport Statistics UsersGroup

**Monthly Review: September 2017**

This month's review has shown that MBTA's rail commuter satisfaction has doubled in the past two years. Ridership increased by 8% in Portugese trains (CP) services in the first half of the year. When a $4.50 charge was introduced to park cars at a commuter rail station near Ontario Airport, usage of car parks dropped 31%. We've also 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-18-Oct | TfL | London & National Rail: Trend & Growth |
| Wed-15-Nov | TfL | UK Bus/Coach Statistics: A Global View |
| Wed-13-Dec | TfL | Use of Urban Space for Transport |

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

## Statistics Digest

STATISTICS DIGEST September 2017

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 | |
|---|---|
| 3 August | Renewable Transport Fuel Obligation: Year 9 (2016 to 2017) report 4 (15 April 2016 to 14 April 2017 supply) |
| https://www.gov.uk/government/statistics/biofuel-statistics-year-9-2016-to-2017-report-4 | |
| 3 August | Reported road casualties in Great Britain: accidents involving illegal alcohol levels: 2015 (final) |
| https://www.gov.uk/government/statistics/reported-road-casualties-in-great-britain-accidents-involving-illegal-alcohol-levels-2015-final | |
| August | British social attitudes survey: 2016 |
| https://www.gov.uk/government/statistics/british-social-attitudes-survey-2016 | |

| Forthcoming releases from Department for Transport | |
|---|---|
| 1 Sept | Port freight statistics: 2016 final figures |
| https://www.gov.uk/government/collections/maritime-and-shipping-statistics | |
| 6 Sept | Air passenger experience of security screening: 2016 |
| https://www.gov.uk/government/collections/aviation-statistics | |
| 7 Sept | Taxi and private hire vehicles statistics, England: 2017 |
| https://www.gov.uk/government/collections/taxi-statistics | |
| 14 Sept | Travel time measures for local 'A' roads, England: July 2016 to June 2017 |
| https://www.gov.uk/government/collections/road-congestion-and-reliability-statistics | |
| 14 Sept | Travel time measures for the strategic road network: July 2016 to June 2017 |
| https://www.gov.uk/government/collections/road-congestion-and-reliability-statistics | |
| 28 Sept | Reported Road Casualties in Great Britain, annual report: 2016 |
| https://www.gov.uk/government/collections/road-accidents-and-safety-statistics | |
| 28 Sept | Reported Road Casualties in Great Britain: provisional estimates for accidents involving illegal alcohol levels 2016 |
| https://www.gov.uk/government/collections/road-accidents-and-safety-statistics | |
| September | Provisional road traffic estimates, Great Britain: July 2016 to June 2017 |
| https://www.gov.uk/government/collections/road-traffic-statistics | |

| Forthcoming releases from Department for Transport | |
|---|---|
| September | Local area walking and cycling in England: 2015 to 2016 |
| https://www.gov.uk/government/collections/walking-and-cycling-statistics | |
| September | Port freight statistics: 2016 final figures |
| https://www.gov.uk/government/collections/maritime-and-shipping-statistics | |
| 12 Oct | Road freight statistics: April 2016 to March 2017 |
| https://www.gov.uk/government/collections/road-freight-domestic-and-international-statistics | |
| October | Annual bus statistics: year ending, March 2017 |
| https://www.gov.uk/government/collections/bus-statistics | |
| October | Concessionary travel statistics: year ending, March 2017 |
| https://www.gov.uk/government/collections/bus-statistics | |

| Recent European releases | |
|---|---|
| 30 May | Swedish road accidents involving personal injury 2016 |
| https://www.ssb.no/en/transport-og-reiseliv/statistikker/vtu/aar/ | |
| 21 August | France - Road Safety in 2016 - Final Results |
| http://www.securite-routiere.gouv.fr/la-securite-routiere/l-observatoire-national-interministeriel-de-la-securite-routiere/english-version | |
| August 2017 | Eurostats Mobility and Transport Statistical pocketbook 2017 |
| https://ec.europa.eu/transport/facts-fundings/statistics/pocketbook-2017_en | |

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

## General News

### Forecasts

*Edited from www.governing.com*

We love to make bold guesses about how we will transport ourselves a generation or two down the road. These guesses have one thing in common: They almost always turn out to be wrong. Back in 1894, a distinguished panel of New York citizens peering into the urban future issued a distant early warning. By 1930 or so, they said, the streets of Manhattan would be virtually impassable due to an exponential increase in the amount of manure dropped by horses pulling carriages. That prediction probably made sense at the time. It just failed to account for the invention of the automobile.

Fifty years ago, there were scientists at the nation's leading universities speculating that by the end of the century, Americans would be commuting to work in personal jet planes they could park on backyard landing strips. It didn't seem far-fetched. We may laugh about it now, but this looked to much of the mid-century engineering elite like a glimpse into an inevitable future. Once again, it was a bit off the mark.

Thirty years ago, no one in his right mind would have looked at the decrepit New York subway system and seen it as an engine of 21st-century affluence that would

transform lowly Brooklyn into a bastion of million-dollar condominiums and high-technology entrepreneurship. But that one actually happened.

Today the Internet is awash in scenarios describing how driverless cars will change our cities and our lives in the space of just a few years. No doubt the driverless revolution will arrive someday. How soon is a question on which, given history, we have every right to be sceptical. The fact is that when it comes to transportation, we love to make wild guesses about the future, even though our previous ones didn't turn out right. And thanks to computers, we can generate large volumes of data in support of any given future we wish to promote. Some of this guesswork is harmless, but some of it can lead us to dubious public policy choices.

Consider, for example, the National Environmental Policy Act. NEPA was enacted in 1970, at a moment when environmental activists were enthusiastic about their ability to produce a cleaner planet through federal regulation. Its focus was almost entirely on protecting Earth's air and water and the creatures who share the planet with us. It wasn't meant to be a statement of transportation policy, and for most of its early history it wasn't that. But the language of NEPA was so vague as to make the law useful for a wide variety of crusades far outside its original intentions. The law promised to foster "an enjoyable harmony between man and his environment" and "a wide sharing of life's amenities." Future legislation dealing with land use was required to carry with it an environmental impact statement if it constituted a "major federal action significantly affecting the quality of the human environment." What exactly that meant was left to courts and the litigators who came before them. Given the way the law was written, it was a relatively simple matter for activists to file suit against a new highway or bridge or public transportation system on the grounds that it would somehow interfere with the harmony between man and his environment. Thousands of such lawsuits were filed, and many of them were successful in slowing projects down, and sometimes knocking them out altogether. Most of the environmental litigation that interfered with major highway projects, especially in congested cities, seemed to be at the very least preventing construction of an eyesore and much of the time striking a blow for urban survival and recovery.

But it soon became a common requirement for communities and developers planning any new transportation project to justify it by predicting how it might be used 10, 20 or 30 years later, even though no such prediction stood much chance of being accurate. Planners often had to thread the needle when it came to feigning clairvoyance. If the usage they forecast for a project was too heavy, the project could be halted on the grounds that it would lead to unacceptable congestion. If the forecast came in too low, a judge could declare it to be an unnecessary intrusion on the pristine land around it.

And so we come to 2017, and the strange case of Maryland's Purple Line project. The Purple Line is (or would be) a 16-mile light rail system with 21 stations connecting communities in the suburbs of Washington DC. It would cost something over $2 billion to construct. It's been a dream of local planners and urban advocates for more than 25 years. In 2014, the dream seemed to be coming true. The Federal Transit Administration (FTA) agreed to spend $900 million on the project - enough, in combination with private and state and local government funding, to get it built. The first trains were to begin running in 2022.

In the summer of 2016, the Purple Line was five days away from getting its federal grant money. But at the last moment, a new player entered on the scene: U.S. District Judge Richard Leon. The judge issued a response to a NEPA lawsuit brought by some suburbanites living in the vicinity of the project. These residents had no

legitimate environmental concerns; they just didn't want a transit line in their neighbourhoods. But they knew how to take advantage of the giant loophole that NEPA had become. The plaintiffs managed to convince Leon that the Purple Line planners hadn't done enough to project what the line's ridership might be as far out as the year 2040. Actually, the planners had made some projections, but the judge said they weren't good enough. He said they failed to account for declining ridership on Washington's Metro system. While Metro is basically unrelated to the Purple Line, it could be responsible for generating as much as a quarter of the new line's passengers. So what if a weakened Metro, the judge wanted to know, left the Purple Line, 25 years from now, without a sufficient number of riders? Maybe, then, the whole project was unnecessary. Go back and make more guesses, Leon ordered.

The FTA took several months and then returned with essentially the same package of projections it had prepared several years earlier. The package offered five different scenarios, ranging from a substantial recovery in Metro ridership to a collapse of the Metro system entirely. Even if Metro ceased to exist, the agency estimated, there would still be plenty of riders in 2040 to justify the new project. And besides, what did all this have to do with protecting the environment? The answer, of course, was nothing.

In May, the judge answered back. The Purple Line planners hadn't given him the data he wanted. He wasn't releasing any money until they went back and gave him a whole new supplemental statement, with accurate numbers out into the distant future. The project managers pointed out that if the federal funding didn't arrive by June, they would have to delay the whole project, and possibly cancel it altogether. Too bad, the judge essentially told them. That wasn't his problem. The FTA appealed Leon's ruling, and late last month a federal court issued a temporary stay of the judge's decision, while the case is being reheard. That allowed the state to resume work on the line, at least for now.

But the whole case provides glaring evidence of how years and millions of dollars can be wasted arguing about projections that can't possibly be made with even a shred of confidence. It could be that by 2040 Metro and the Purple Line system will have combined to spark thriving new development all along the new route. It's also possible that by 2040 Metro will have fallen into disuse. But why stop there? Maybe by 2040 driverless cars will have pushed all forms of public transportation off the road. Maybe everyone will be teleporting to work. Maybe anything.
The point is that these things are not just uncertain, but unknowable. Predicting traffic patterns in Maryland in 2040 is about as valid as projecting the increase in horse manure in Manhattan between 1894 and 1930. Anybody who pretends to have precise information is either a fool or a self-interested charlatan.

But there's a larger point to be made here. Whether or not to build the Purple Line is a question for the democratic process - for the citizens we elect as legislators and appoint as managers. Reasonable people will differ on it. But when a judge hijacks the whole issue and issues rulings on spurious legal grounds, he undermines public trust in the judicial system.

## Rail Commuter Satisfaction in Boston


*MBTA commuter train at Providence T F Green Airport*

The number of riders who said they were satisfied with the Massachusetts Bay Transportation Authority's (MBTA) commuter-rail service has nearly doubled over the past two years, according to a recent survey.

Of the riders who participated in the survey, 32% said they were satisfied with the MBTA's commuter-rail service. That is an increase from another survey conducted in spring 2015, when just 18% of passengers said they were satisfied with the agency's commuter rail.

Research firm SocialSphere conducted the surveys between April 22 and 28. The company surveyed 5,780 respondents who matched overall commuter-rail ridership by line, according to a press release issued by Keolis Commuter Services, which operates MBTA's commuter-rail network.

Keolis has been surveying passengers twice a year since 2015.

In the most recent survey, 60% of riders said they were "neutral" about their level of satisfaction, while 8% said they weren't satisfied. Although the number of satisfied passengers has increased over the last two years, it dropped from 34% in the autumn 2016 survey.

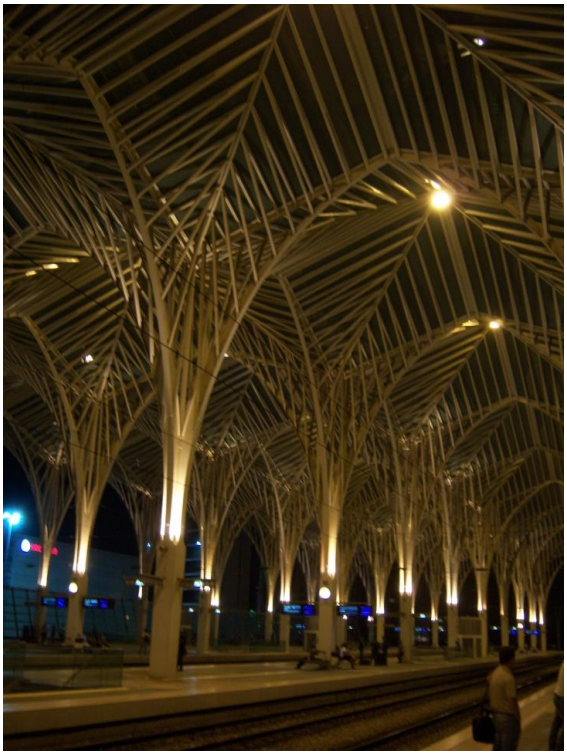
In the spring 2016 survey, 35% of respondents said they were satisfied with the MBTA's commuter rail.

Passengers said that improved on-time performance, onboard communications and cleanliness of station restrooms would increase their satisfaction. Keolis aims to address those concerns with targeted action plans, company officials said.

*Wow. Look at our NRPS. Two train operators score over 95% satisfied or good in the overall satisfaction rating. Five score over 90, 10 over 85 and six over 80. Just two – including Southern, understandably, are between 70 and 80.*

## CP Passenger Numbers

*Edited from International Railway Journal*



Ridership increased by 8% on Portuguese Trains (CP) services in the first half of this year. Figures released by the company on July 21 show passenger numbers rose by 3.9 million compared with the first half of 2016 to more than 60 million.

With increased patronage, operating revenues climbed 8% to €119m.

Lisbon suburban services recorded the strongest growth, with passenger numbers increasing 7.7% to 41 million; while in Porto ridership rose 5.2% to 11 million. Long-distance services carried 3 million passengers, a 6.6% increase, while regional services also achieved growth, with passenger numbers up 4.5% to 5 million.

*Lisbon Oriente station*

## SNCF H1, 2017

*Edited from International Railway Journal*

French National Railways (SNCF) has turned a 2016 first half loss of €159m into a profit of €119m for the first half of 2017 thanks to a 3.7% increase in first half turnover, which rose from €16bn in 2016 to €16.6bn in 2017.

SNCF attributes its improved performance to four key factors:
• its commercial policy based on new offers and low fares
• an improvement in the French economy
• a 3.7% increase in sales at SNCF Logistics, and
• acceleration of upgrading works on the network with €2.3bn spent during the first half of 2017 of which €1.6bn was financed by SNCF Network. SNCF plans to invest €34bn in the core network between 2017 and 2026.

However, overall investment fell from €4bn in the first half of 2016 to €3.88bn in the first half of 2016.

SNCF recorded strong increases in passenger traffic during the first half of this year with rises of 8.4% for TGV, 20% for Ouigo low-fare high-speed services, 4.2% for Intercity, 4.7% for TER regional services, and 2% for Paris commuter services, while Eurostar set a new record carrying more than 5 million passengers. [Ed. – did it? My

records say Eurostar carried over 5m passengers in the first halves of 2014, 2015 and 2016]

SNCF Mobility continued to reduce its debt from €8.2bn on June 30 2016 to €7.97bn on December 31 2016 and €7.7bn on June 30 2017, while SNCF Network's net debt on June 30 2017 was €46.1bn, which it says is a €1.2bn improvement over the 2016 year-end figure.

## The Impact of Car Park Charges

*From Progressive Railroading*

When a $4.50 charge to park cars at Metrolink's Rancho Cucamonga station, close to Ontario airport east of Los Angeles, was imposed, usage of the car park reportedly dropped 31% and daily boardings dropped 17%. With a round-trip ticket to Los Angeles costing $26, the fee was like a 20% fare increase. Three years later, ridership has not recovered, and the Southern California Regional Rail Authority, which oversees Metrolink, wants to know why. The figures were provided to the rail authority's board of directors earlier this month.

San Bernardino County Transportation Authority, the county's transportation planning agency, said their figures show that some riders opted to use adjacent stations, which have no parking fee and where the rides cost less, but that was not enough to cover the decline in Rancho Cucamonga. Metrolink officials believe some riders decided to drive to their destination instead of using public transportation. The rail authority plans to analyse the trend further and working with cities on pricing. Fewer riders on Metrolink, and hence more drivers, could lead to more congested freeways and emissions in the air, the rail authority said.

Between the fiscal years 2014 and 2017, Rancho Cucamonga station has actually seen a 25% drop in daily boardings. This is attributed to cheaper gas (petrol), a strong economy and schedule changes with Metrolink. The most notable change in the line occurred in 2014 when Metrolink discontinued its rush hour express train, which had a stop in Rancho Cucamonga and was heavily used.

Of Metrolink's 83 stations, across the six-county system, only nine charge for parking. Rancho Cucamonga is the only city in San Bernardino County to charge for parking. The city implemented its parking fees to recover the costs of maintaining and providing security of the two lots. During the second year of the program, the city revised its monthly fees for residents, from $25 a month to $20 a month, because the program generated more revenue than expected. Despite the declines in daily boardings, Rancho Cucamonga continues to be the busiest station in San Bernardino County with an average daily boarding of 720 riders, with the San Bernardino station coming in second with an average daily ridership of 666.

Cities along the San Bernardino County portion have an agreement with the County Transportation Authority to maintain property (such as parking lots, landscaping, lighting, utilities, security and pedestrian underpasses) at the stations.

Some cities are looking at paid parking from different perspectives. In Upland there are only 294 parking spaces, but the station averages 595 daily boardings.

## Air

### Customer Satisfaction with Airlines

*Edited from BT News*

*easyJet customers queuing to board at Copenhagen Kastrup Airport*

Engine Service Design, which advises companies on improving customer satisfaction, surveyed 1,025 adults online, asking them to name the three sectors from a list of 14 with the worst service. Results showed airlines, broadband and insurance were the three groups that experienced the steepest decline in customer service perception over the past year, with the aviation industry suffering most.

In a similar survey in 2016, air travel was named by only 12.8% of respondents, with only hotels and hospitality (8.8%) and technology (12.4%) on lower numbers, but the airline sector now features among the top three for 17.1% of respondents.

ESD co-founder Joe Heapy said the results suggested the airline sector had “done more than any other industry to damage its reputation in the past year”. “It wasn’t just that the incidents were bad – arguably it was their response that caused as much anger, particularly in BA’s case,” he added. “In an era of rampant cost-cutting, their actions and reactions can give the impression people are more akin to cargo than passengers.”

### IAG Results

IAG, parent of BA, Aer Lingus and Vueling, reported Q2 results recently. Adding these to my spreadsheet of data (which sum key statistics for the latest four quarters) shows two interesting trends.

First, the moving total 4-quarter passenger revenue remains below £20bn: it exceeded this number until Q3, 2016. It is, however, a little higher than the figure for the previous three moving 4-quarter totals.

But second, other numbers are up. Revenue passenger kilometres are a record 248bn (compared with 222bn in the four quarters to Q4, 2015, which is as far back as

my data go): available seat kilometres are on 302bn (272bn in Q4, 2015). Passenger numbers are at 102m (88m).

Revenue/passenger has been dropping steadily – from €230 to €194 – and average journey length has decreased slightly (2513 to 2416 miles).

There is some distortion, because Aer Lingus is included from August 2015.

## jetBlue


jetBlue, the US low-cost carrier, reported its Q2 figures recently.

Passenger revenue for the quarter was $1.65bn – the first time it has topped $1.6bn since I started keeping quarterly statistics. Revenue passenger miles (RPM), available seat miles (ASM) and passenger numbers were also at record highs.

*jetBlue A320 at New York JFK*

RPMs were above 12bn and ASMs above 14bn, both for the first time since my records started in Q1, 2015. Passenger numbers were above 10m, again for the first time.

Looking at 4-quarter moving averages, passenger revenue is $6.149bn (the second four-quarter total when it has exceeded $6bn). RPMs were 46.6bn (a steady growth from the 41.7bn in the 4 quarters to Q4, 2015). ASMs were 54.8bn (from 49.3bn) and passengers 39.5m (35.1m). The bad news (for jetBlue, anyway) is that revenue/passenger has gone down from $167 to $156 – and this isn't because of a change of mix of journeys: RPM/passenger has remained virtually constant at 1180.

## One-way Air Tickets

*From Business Traveller*

It's no longer true that buying a round-trip airline ticket is always cheaper than booking a one-way trip — a fact that more travellers are waking up to — according to a report from the Airlines Reporting Corporation (ARC), which tracks ticket sales by travel agencies.

A review of data on more than 350 million airline ticket sales found 42% of all ticket purchases are now one-way itineraries, compared to 29% in 2014 — a 45% increase.

However, the shift is largely due to changes in behaviour by leisure and non-managed travellers, ARC noted: one-way bookings by travel agencies working

primarily with government and corporate clients has hovered around 30% during the same time period, even though business travellers traditionally bought more one-way tickets due to last-minute itinerary changes and other factors.

“Clearly the managed travel population has yet to follow the trend seen in the general population moving to more one-way tickets,” the report, Myth-Busting the Cost of One-Way Tickets, noted.

At the same time, the premium charged by airlines for one-way tickets — which used to be upwards of 50% compared to the price of a round-trip fare — has dropped significantly. An analysis of the top 200 markets sold by U.S. travel agents based on travel volume found that about 30% have seen a reduction in the one-way premium of 25% or more since 2014. “In other words, about one-third of the top airline markets in the U.S. have seen one-way travel becoming much more affordable relative to round trip tickets,” according to the report.
By looking deeper into the options for one-way tickets, cost savings and other benefits may be available to travellers,” ARC advised business travellers, corporate travel managers, and others.

## PSO air routes in the EU

There are 173 PSO-supported routes in Europe, in 11 member states (Cyprus, Estonia, Finland, France, Greece, Ireland, Italy, Portugal, Spain, Sweden and the UK).

France has 42 of these, with 5.7m passengers (20% of all French domestic air passengers).
70% of domestic air passengers in Ireland fly on a PSO-supported route.

Only 5 of the 173 routes are international.

The annual cost to the taxpayer is €330m.

## World Airline Fleets

*(from a 2015 EU Document*)

| Airline | Widebody | | Narrow body | |
|---|---|---|---|---|
| | Current | On order | Current | On order |
| Emirates | 238 | 270 | | |
| AF/KLM | 172 | 64 | 362 | 40 |
| United | 168 | 80 | 547 | 120 |
| Delta | 160 | 75 | 764 | 100 |
| IAG | 152 | 84 | 322 | 91 |
| LH Group | 150 | 45 | 411 | 182 |
| American | 148 | 57 | 45 | 50 |
| Qatar | 117 | 163 | 1061 | 362 |
| SIA Group | 114 | 110 | 54 | 79 |
| Etihad | 83 | 161 | 32 | 28 |
| Turkish | 76 | 20 | 215 | 179 |
| Air Canada | 73 | 28 | 136 | 64 |
| China Southern | 72 | 9 | 405 | 34 |
| LATAM | 68 | 48 | 237 | 85 |
| Qantas | 53 | 11 | 67 | |
| China Eastern | 51 | 14 | 343 | 53 |
| Air Asia | 19 | 80 | 79 | 307 |
| Southwest | | | 679 | 262 |
| Ryanair | | | 326 | 260 |
| easyJet | | | 218 | 150 |

## Finavia Statistics

Statistics on use of Finland's airports are on Finavia's website,
https://www.finavia.fi/en/finavia-corporation/air-traffic/statistics/2017/

There is a section listing all airports alphabetically, with the latest month and year-to-date figures for domestic and international passengers.

Another deals specifically with Helsinki Vantaa airport, giving arriving, departing and transfer passengers separately for domestic and international flights. This is available monthly.

There is also a section with a breakdown of domestic and international, scheduled and non-scheduled with international broken down by EU, non-EU Europe and long haul.

Another breaks down international scheduled passengers by destination country. This goes down to countries with about 1000 passengers/year (in the year to June, smallest countries by destination were Luxembourg with 510 and Mauretania with 585): there is an 'all other countries' catch-all.

## Heathrow Results for H1, 2017


*Qantas A380 at Heathrow*

In the six months ending 30 June 2017, Heathrow saw revenue up by 4.1% at £1,374m, pre-tax profit up 36% at £102m, passengers up 3.9% at 37.1m and retail revenue/passenger up 7.6% at £8.43.

Passenger numbers to and from Europe, accounting for 42% of the airport's traffic, were up 3.1% at 15.5m. Asia-Pacific showed a 5.7% increase to 5.4m, and Middle East up 13.1% at 3.6m (reflecting the impact of more flights and larger aircraft).

83% of passengers rated their Heathrow experience excellent or very good. 83.2% of flights departed within 15 minutes of schedule, and 11 bags/1000 passengers were recorded as mishandled. In February this was a record low of 7 bags/1000 passengers.

## Airport Mode Share Statistics

Following the presentation from CAA at the July TSUG seminar, I had occasion to check the mode share figures for Edinburgh in the latest (2016) issue of Scottish Transport Statistics. Some of the figures (which were for 2013) looked odd – notably a 3.8% mode share for rail. The light rail didn't serve Edinburgh Airport until 2014! The 25.7% 'other' was also anomalous.

I checked this with our speaker, who very kindly sent me a full breakdown of the 2013 Edinburgh figures. This didn't explain the rail figure, but it looks as if 'other' is the Airlink100 bus from the city centre.

And the full list of modes is listed below: I was told that they are not normally available in this level of detail. But should you ever need CAA statistics at a greater

level than is available in TSGB, this is the kind of detail you might be able to get if you pay for it.

Airline courtesy car
Airlink100
Boat
Bus Unspecified
Bus/coach company unknown
Charter coach
Chauffer
Courtesy bus (travel agent)
Cycle
Heathrow Connect
Hotel bus
Local bus companies
Minicab
National Express Coach
National railways
Other
Other National/Regional coach service
Private car - airport long term car park bus
Private car - business car park
Private car - driven away
Private car - hotel car park bus
Private car - mid stay car park bus
Private car - private long term car park bus
Private car - short term car park
Private car - short term car park - meet/greet
Private car - staff car park bus
Private car - type of car park unknown
Private car - valet service - Off airport
Private car - valet service - On airport
Rental Car - Bused to off airport car hire
Rental car - short term car park
Rental Car - Used on airport car hire
Taxi
Taxi/Minicab Unspecified
Terravision
Walk (where only mode)

## Heathrow Express – Excellent NRPS Scores

The National Rail Passenger Survey (NPRS) analyses the opinions of train passengers in Great Britain twice a year. It asks about satisfaction with up to 40 different elements of the journey (on trains and at stations) for 26 different train

*Gatwick Express class 387 at Gatwick Airport*

services – 1040 attributes in all. The Spring 2017 survey has just been published. Two train operators scored 97% in overall satisfaction - Heathrow Express (with 6m passengers/year) and Hull Trains (with about 800,000).

In the 1040 scores, there were 17 on the entire railway of over 94% – where 95% or more passengers rated them satisfied or good. Eight - nearly half - of those super-high scores were by Heathrow Express passengers.

Comparing Heathrow Express and Gatwick Express, the latter is rather left standing. Overall satisfaction with Gatwick Express is 88%, and very few elements approach Heathrow Express's scores. One is connections with other forms of public transport (Gatwick Express 88%, Heathrow Express 89%). Both scored 91% on frequency. Despite Gatwick Express trains being virtually new, satisfaction with Heathrow Express's 20-year old class 332s was 96%, compared with 89% for Gatwick Express's 387s.

Value for money on Gatwick Express is 39% - and it was impressive that on this attribute 52% scored Heathrow Express satisfied or good. That score in Spring 2015 was 36%! Heathrow Express has worked hard on advance-purchase and off-peak summer offers, and telling people about time savings and reliability – both valuable to business passengers in particular. 13 operators scored higher on value for money – including Heathrow Connect at 55%.

## Driving Licence Holding

DfT has recently released NTS0201, Full Driving Licence Holder in England. TSUG members will know that these figures have fluctuated in the last few years, as 17-year olds no longer universally see getting a driving licence as a priority.

In the 17-20 age cohort, 48% had a licence in 1992/94. By 2002, this had dropped to 32%: it peaked again at 38% in 2007 before dropping to 31% in 2011. There were then ups and downs: 36% in 2012, 31% in 2013, 29% in 2014, 33% in 2015 and 31% in 2016.

The next cohort – aged 21-29 – also shows fluctuations: 75% in 1992/4, 67% in 2002, 63% in 2010, 66% in 2013, 63% in 2014 and 66% in 2016.

The 30-39 cohort shows a steady drop – 83% in 2002, 80% in 2009, 78% in 2012 and 76% in 2016. By contrast, the 40-49 cohort is virtually stable – 83% more or less every year from 2002 to 2016.
The 50-59 age group shows a slow increase – 81% in 2002, 83% in 2014, 84% in 2015 and 85% in 2016. The 60-69 group shows a similar trend: 70% in 2002, 80% in 2009, 82% in 2013 and 81% in 2016.

Finally, the 70+ age group had 45% in 2002, 64% in 2015 and 62% in 2016.

Various reasons have been put forward for these trends – young people paying more for education and being more aware of climate change – and wanting to use mobile devices other than cars; people needing cars as they start families (which itself is happening later in life) and so on. No doubt explanations will proliferate and change will continue.

## Solutions to the Traffic Problem?

*Edited from CityLabs*

In 2004, the American Highway Users Alliance dubbed the Katy Freeway in Houston, Texas, the second-most congested freeway in America, squandering 25 million hours of commuters' lives every year. Texas' solution? Go big. Today, the freeway spans 23 lanes, and claims the title to the widest highway in the world. The AHUA applauded the "fixed" bottleneck in 2015.
Only problem: traffic's gotten worse. It's the principal of induced demand: adding lanes almost always adds traffic. If widening highways can't solve Houston's commuter woes, what can? A new film from the video-explainer extraordinaire Wendover Productions has five ideas—and one grave warning.

1. **Ramp meters**

Traffic slows exponentially—a small addition of cars can lead to a lot more congestion. But it also means that removing a small number of cars can reduce congestion considerably. Ramp meters allow one or two cars to enter a highway at a steady rate, keeping traffic speeds flowing at relatively efficient speed. They work: In 2001, Minnesota's DOT switched off ramp meters to test their effectiveness. They found travel times slowed by 22%. "The ramp metering system produces an annual reduction of 2.6 million hours of unexpected delay," a state report concluded.

2. **Road pricing**

Roads are among the most valuable assets in a city's portfolio, but few cities price them that way. But charging drivers to enter certain areas, at certain times, is the single-most effective congestion mitigation strategy cities have at their disclosure. Stockholm decreased travel times by about 40% in 2006 by charging

drivers just $2 to enter its city centre—London, Singapore, and Copenhagen have seen similar changes with their congestion pricing schemes.

3. **Roundabouts**

Solving traffic isn't just about congestion—it's also about safety. Replacing stop signs or signals with the circular anti-intersections can reduce serious crashes by up to 75%—and fatal collisions by up to 90%. (There is evidence that roundabouts increase less-serious crashes.) By slowing drivers down, eliminating left turns, and allowing traffic to flow uniformly, roundabouts are a useful engineering intervention.

4. **All hail the shared street**

Stripping intersections of lanes, stop signs, signals, cones and crossings might sound like a death wish—but it actually forces everyone sharing the road to pay closer attention. That pays off: woonerfs, as the Dutch call such multi-modal walking, biking, and driving zones, can reduce crashes by about half.

5. **Rethink the traditional highway interchange**

Highways aren't going extinct anytime soon, so we may as well make them safer while they're still here—namely, by reducing crash-prone conflict points at onramps. Diverging diamond interchanges (which have their own fan site!) guide both directions of traffic to cross to the opposite sides before they enter the highway, so that cars never have to make risky left turns. The U.S. DOT is a fan. About 90 of these crash-reducing interchanges exist in the U.S. now, with more on the way.

Traffic will never be "solved" until all cars are removed from the road. Indeed, to the five ideas listed here, we'd add funding and expanding transit options, supporting biking and walking infrastructure, and removing cars entirely from the densest urban areas.

But so long as cars are among us, there are ways to mitigate rush-hour headaches, and eliminate needless crashes, if transportation officials discard the old highway engineering manual in favour of solutions like these. "Until cities at least experiment with solutions," the video's narrator states, "we're all condemned to traffic, forever."

## Using Mobile Phones and Driving

An interesting piece of research was carried out by a group of universities in the west of the US, which used a survey of University of Utah students who drove and had mobile phones. Only 22.5% said they never used their phone while driving: 51% did so occasionally. Those who did so used their phone for 15% of the time when they were driving.

Most respondents supported legislation restricting this as a matter of public safety – although the most frequent users were least supportive.

160 of the 249 participants felt that they were above average in their ability to drive while distracted (by using a phone). In fact, their actual multi-tasking ability was negatively correlated with their perceptions of their ability to drive safely while distracted. However, the perception of being able to drive safely while using a phone was positively correlated with that combination of activities.

Participants generally recognised that using a phone while driving is risky: they reckoned that other people using phones while they were driving threatened their own personal safety and well being.

"Why drivers use cell-phones and support legislation to restrict this practice". Researchers from the Mountain-Plains Consortium 4/17

## Why Are Manhattan's Streets Getting Slower?

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The average speed of traffic has been falling for years, and it's having a ripple effect on the city's transit network. There's a note in New York City's most recent mobility report. Travel on streets in Manhattan is getting slower. Citywide bus speeds have declined more than 2% since 2010, according to the city, and travel speeds in much of Manhattan have dropped 20%—with a 10% drop in just the past year. Data come from GPS devices in taxis.

The difference between 9.35 miles/hour and 8.21 miles/hour doesn't seem like a lot, but it works out to noticeably longer trips in this urban environment. If we take the average 1.5 mile trip (the median taxi ride in New York is between 1 and 2 miles), it now takes about a minute and twenty seconds longer than it did just a few years ago: about 11 minutes rather than 9 minutes and 40 seconds. That delay affects a lot of people: there are about 360,000 taxi trips daily in Manhattan, and about 1.8 million people ride buses on the city streets, and are also affected by delay.

There are lots of reasons why travel might be getting slower, among them:

- The economy is rebounding. More jobs in New York means more commuters, more shoppers, more business and more traffic.
- There are more "for-hire vehicles." The number of taxi trips is down, but that's been more than offset by the huge increase in for-hire vehicles, especially those provided via ride-hailing transportation network companies (TNCs), like Uber and Lyft. Bruce Schaller's report (written up in the April TSUG Review) confirms that the growth of ride-hailing has contributed materially to the decline in traffic speeds

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Interestingly, despite the rebounding economy, fewer vehicles are *entering* Manhattan. With fewer vehicles, it's puzzling why travel speeds should be getting worse. The evidence here is at best circumstantial, but here's a hypothesis: While fewer vehicles are coming into Manhattan, those that are coming are more likely to be taxis or other for-hire-vehicles looking for customers. They may be lingering longer.

If so, there's a kind of tragedy of the commons at work here. Additional cars and drivers are drawn into Manhattan due to the dense concentration of potential fares and customers, enhanced by the prospect, at least in the case of TNCs like Uber and Lyft, of earning even more when prices are multiplied during "surge" periods. And neither taxis nor TNCs have a strong incentive to *leave* Manhattan (fewer fares, and at least for trips to New Jersey, the prospect of bridge tolls). As more and more cars concentrate in Manhattan, streets become even more clogged and traffic moves more slowly. And it isn't just cars that are affected, of course, it's the city's buses as well. Slower bus transit times mean longer trips for bus passengers and lower efficiency for the transit system (driver costs, which are largely time based, are higher per passenger carried and per mile travelled when the buses move more slowly. City-wide bus speeds have dropped 2% according to the Mobility Report. And bus ridership in New York has been declining since 2009.

Of course, what's been happening below ground, in the New York subway has been very much in the news recently. Charles Komanoff has estimated the congestion and delays on the subway cost its riders $1.4 billion a year. And there's a connection: the slower buses go, the more likely it is that people will take the subway. And that appears to be exactly what's happened. Since 2010, the number of bus trips has declined by 46 million annually, while the number of subway trips has increased by 159 million per year. One way to reduce the pressure on the subway system is to make buses more attractive.

The Transit Center has put forward a series of ideas for improving bus service and travel speeds in New York: better signal timing, optimizing routes, automating fare collection, allowing all-door boarding, increasing deployment of "Select Bus Service," with exclusive lanes for buses on some routes. All of these would help, but for buses operating in mixed traffic, arterial travel speed may be the most important constraint on productivity improvements.

Ultimately, the only way to improve travel times on the street may be to price the roadway. Charging a fee, adjusted to time of day, could reduce traffic on busy streets, and enable buses to move faster. Faster buses would be both more productive (more passengers carried/driver hour) and more attractive to riders, potentially relieving pressure on the subway system.

And this isn't just a New York City problem. The Seattle Transit blog reports that the city's buses spend 18% of their time stopped in traffic, which produces schedule unreliability, and lowers the efficiency and raises the cost of operations.

Ride-hailing services like Uber and Lyft aren't solely to blame for traffic congestion. But what they do is accentuate the problem, particularly in dense urban environments. Places with a high concentration of customers, the lure of surge pricing, and free streets will attract lots of TNC vehicles. This is exactly what's happened in San Francisco, where as much as 20% of downtown traffic consists of ride-hailed vehicles. And with more traffic comes slower speeds, which imposes high costs on all road users–and importantly, undermines the productivity and attractiveness of transit buses. This is a problem that is only likely to become worse as ride-hailing grows.