

TSUG

Transport Statistics Users Group

Monthly Review: January 2017

The first issue of 2017 has a bumper Air section that, as always, will give you a flavour of the current performance and trends in the industry. In addition to that we've got the Q&A write-up of the November seminar on mobility for older people and some interesting pieces on fare evasion, rail competition in Italy and airport "megazones".

Calum Leslie and Andrew Sharp

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Dates of the next TSUG seminars

Date	Venue	Topic
Wed-18-Jan	TfL	National Travel Survey

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

Seminar Write-up

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

Mobility for Older People, November 2016

Speaker 1 (Kit Mitchell)

Arnold Cohen (TfL) asked if judgement and responsiveness to road conditions were better with younger drivers. Older drivers were more likely to be involved in accidents where there were side impacts (typically right turns) and side impact protection was inferior to head-on protection.

Heather Ward (UCL) suggested that older drivers found turning out of minor roads difficult, due to decreased ability to turn. Agreed – remedial courses for older drivers after accidents in (for example) Hampshire recommended changing routes to avoid right turns.

Stephen Plowden (retired road safety expert) asked about the source of the accident speed data. What speeds would reduce impact damage? There was a suspicion that older drivers were hit by speeding younger drivers! Another issue was that people were better at judging distance than speed, and therefore used the former to decide when to pull out.

Nico Dekker (RSC) asked about accident rates/licence holder compared with rates/distance driven. He also asked about the relationship with pedestrians, rather than motorised road users, killed. Reaction times slow down with age and there is evidence that drivers compensate for this, the number of crashes involving older drivers is lower than with younger ones. Both ratios matter – it depends on what you are looking at and why. The risk/driver matters to insurers, for example. As distance driven decreases, the risk/mile driven increases.

Nico also asked about protection of older women. The dummies used in crashworthiness tests are of middle-aged men, so safety improvements only coincidentally help other ages.

Peter Headicar (Oxford Brookes University) asked if relinquishment of licences was a factor and questioned why people were doing this – was it more likely if they are involved in a crash? There is a whole range of reasons. There has been a measurable reduction in older-driver accidents in Hampshire because of a scheme for following-up accidents. Those involved are offered assessment and where necessary re-training. About a third then voluntarily relinquish their licence, about half are deemed safe to continue and the rest are referred to the DVLC as unsafe to continue driving.

David Metz (UCL) asked if there was any potential for whistle blowing by friends and relations of older drivers who felt that they were unsafe. Anyone can contact DVLA if they have concerns. In addition, GPs are being asked to consider their public health duty if a patient becomes unsafe to drive. It's difficult and many are reluctant. A

Seminar Write-up

reference to a mobility centre for assessment and retraining may be a better way forward.

Simon Lister (TSUG) asked about the effects of driverless cars. These had not been looked at, since they were unlikely in the next decade. There are degrees of 'autonomous vehicle' and driver assistance.

Andrea Burris (Transport Systems Catapult Ltd) asked about the likely buy-in for older people of autonomous vehicles. They were thought to be very accepting of new technology.

Speaker 2 (Charles Musselwhite)

David Metz (UCL) commented that older people were not heterogeneous – how relevant was the birth age? He felt that it was more relevant to measure remaining life expectancy. Research is being done into this (the Biobank project), to give a 'biological age' – a proxy for life expectancy.

Heather Ward (UCL) mentioned the importance of discretionary trips, the pleasure trips it was least easy to ask friends and relatives to provide. She questioned whether the Sunday drive in the countryside was a feature of what is now the over 70 year old age cohort, and was dying out with them.

Simon Lister (TSUG) said that walking was important for health. Was this a factor at all? Some people walk more than others, although there is usually no change after relinquishing a licence. What people did before relinquishing was a more reliable guide to the future.

Andrea Burris (Transport Systems Catapult Ltd) asked if there was any way of predicting the behaviour of young people as they get older, their shopping habits for instance. Possibly, although one needs to consider the nuances. People are different! Scenario-based futures can be evaluated, although it's not easy.

She also said that mobility services – personalised bus services – might help mobility in retirement.

Peter Headicar (Oxford Brookes University) asked about discretionary relinquishment of licences. This was thought to be situationally dependent and difficult to generalise about.

Nico Dekker (RSC) asked about the take-up of relinquishment of licences as people get older. He thought it was higher in the Netherlands where population densities tended to be higher. Agreed.

Andrew Sharp (TSUG) commented on the observation that people in higher SEGs tend to walk faster – he had thought it was city-dwellers who walked faster? Agreed. He also commented that older people found it difficult to participate in evening events because bus services tended to fade out after about 19:00. Agreed; this was thought to be sad.

Kit Mitchell commented that there was conflicting evidence about the relationship between relinquishing licences and having accidents. Charles Musselwhite said that we were looking at quite a small population – older people involved in road accidents. Many bad drivers drive all their life without being involved in an accident.

Seminar Write-up

Stephen Plowden (retired) thought we ought to make city centres more attractive to people to retire to. Kit Mitchell said that a study in Guildford showed that those living within half a mile of the city centre were the happiest – there were other people around and shops within easy reach. You need to be part of the community.

General News

National Travel Survey mode use 2005-2015 – a view into a travel week

This DfT factsheet gives a different view of NTS data. Normally, data refer to the average number of trips made by each person; this factsheet looks at the number of trips by each user. So if 32,000 trips were recorded on a specific mode by the 16,000 respondents, normally NTS would record this as two trips a week or 104 trips a year. However, if only 4000 respondents actually used that mode, the average for each user is 416 trips a year – and it is this which is the basis of the factsheet.

Over the last decade, the proportion of people in the NTS sample who used each mode has remained fairly constant – except for surface rail, where this has steadily increased from 8% to 10%. More people are recording rail trips in the sample week. This implies that there are over 5.5m surface rail users now, over a million more than in 2005.

Cyclists are cycling more and drivers are driving less than a decade ago. The number of bus trips has remained stable, but they are longer. The average distance cycled by cyclists in the year is likely to be over 1000 miles.

Local bus users have a different age profile to all other groups. About 20% are 0-16 years old, and there are peaks at 21-29 years old and 70+. Those aged 17-20 made 345 trips a year, travelling 1742 miles a year. Surface rail user numbers peak at 21-29 years old.

29% of cyclists were female. They made 299 trips/year and recorded 695 miles/year (men – 344 trips, 1122 miles).

The higher the income, the more likely a person is to use bike, car or surface rail. The lower the income, the higher the probability they will use bus. There was relatively little difference in the number of trips by surface rail by income group, but more difference in trip length with those in the top 20% travelling nearly 8000 miles (mainly commuting) compared with an average of around 5000 (and less than 4000, mainly for leisure, for the bottom quintile).

Fare evasion strategies

In Oslo in 2005, newly installed turnstiles began to trap unsuspecting riders – especially those with children in buggies. This led to a plan to abandon barrier gates altogether, along with the idea of physical barriers that demand payment. By doing this, they emphasised ease of access over making every last rider pay. Europe got into “proof of payment” systems – where mobile personnel request evidence that passengers have paid – in the 1960s. They made it to American shores, mostly in light rail systems, by the 1990s.

Now, 21st century technology is making it easier than ever to eliminate the turnstile in North America. Modernised, cash-free fare payment methods like reloadable tap-and-go cards or apps that let riders use smartphones to get tickets, Apple Pay-style, speed up boarding. Passengers don't have to struggle past fare gates. They can board through any door, instead of having to use a bus's front entrance to pay the driver.

General News



Muni bus and PCC tram in San Francisco

The result – faster vehicles, less crowding and thus a more frequent service, leading (hopefully) to more riders overall. Meanwhile, data collected from systems using modernised proof of payment methods *don't* show fare evasion increasing. People, it turns out, mostly follow the rules, especially if they know getting caught in a spot check carries a hefty fine.

Today, bus, tram and rail passengers in Oslo can use a tap card or smartphone app to pay their fares before the trip. The city's transit agency is moving away from trying to keep the non-paying passengers away to catering for the paying passengers.

San Francisco's Muni system is one of the most recent to open the fare gates and make the switch to all-door boarding. After the city's light rail started letting people use any door in the 1990s, its buses got in on the act in 2012. Helped along by the tap-able Clipper Card, which riders purchase and load in advance, the San Francisco Municipal Transportation Agency installed electronic readers at all doors. It increased the number of trained fare inspectors patrolling the system, too.

It worked. In tourist-heavy areas, the system's bus and streetcar dwell times dropped 13%. Before, each person getting on or off needed 6.8 seconds. Now, they take 3.5 seconds. Multiply those moments of savings by every rider boarding and alighting at every stop on every bus line, and you've got hundreds of hours of extra time each year. All from opening up the back doors.

The cheaters are still along for the ride, according to Muni's latest data. But the agency's surveys found fare evasion dropped from nearly 10% in 2009 to 7.9% in 2014. The resulting estimated loss in revenue fell from \$19.2m to \$17.1m.

That agrees with Oslo's experience, where the public transit system also liberated all metros from fare gates. By making it easier for riders to pay for tickets through their phones, the system halved its fare evasion rates, to 5%. Trains are moving faster, too, which encourages more people to use the service. The agency has calculated the cost of slower operations against what it is losing through fare evasion – it seems to make more financial sense to let some cheaters cheat.

Unfortunately, opening every door is not as simple as it seems. The requisite fare modernisation efforts don't come cheap. New York has been trying to change its swipe-card MetroCard for a tap-and-go, smartphone-friendly system for nearly a decade now, but won't really get the ball rolling until 2018, at a cost of \$419m.

Los Angeles, meanwhile, started its Metro with a fare gate-free, proof-of-payment system, but started moving back to gates in 2008. It cited fare evasion, yes, but also public safety and crime deterrence.

But cities like Oslo and San Francisco show there's a counterintuitive logic to making transit easier to ride for all.

General News

Edinburgh – what a difference a tram makes

The light rail service between Edinburgh and its airport opened at the end of May 2014.

2014 mode share statistics from the CAA show 47% of departing air passengers using car, 24% taxi and 29% bus.

2015 statistics from the airport's draft Masterplan (but presumably also from CAA) show car use dropped by five percentage points to 42%, taxi one percentage point to 23% and bus five percentage points to 24%. The tram was used by 8% of users: 3% used hotel shuttles and charter buses.

Just over half of users originate in Edinburgh city centre. 9.3% are from Fife, 4.4% from Glasgow, 4.3% West Lothian and 2.2% from East Lothian. 3.9% come from Perth and Kinross, 2.8% from Dundee, 2.7% from Stirling, 2.6% from Falkirk and 1.4% from Midlothian.

Defining America's mega-regions

I'm not sure that I can adequately summarise this CityLab article, but if you are interested in the definitions of mega-regions in the US, it's worth reading.

I didn't delve into the underlying research, but would welcome a fuller report from someone with the time to do that.

http://www.citylab.com/commute/2016/12/how-4-million-commutes-shape-americas-megaregions/509483/?utm_source=nl_link2_120816

Six maps that show the anatomy of America's vast infrastructure

Readers may be interested in a Washington Post article that appeared under the headline above just after our last issue – see <https://www.washingtonpost.com/graphics/national/maps-of-american-infrastructure/>.

It does what it says on the tin – includes maps of the electricity grid and power stations, bridges, pipelines, railways (with a chart of rail freight tonnage), airports, ports and inland waterways.

The maps don't look much use at first sight, but click on links to drill down – to find, for example, how Texas generates its electricity.

German local transport statistics



Potsdam Hbf

Statistics about local transport in Germany can be found on the website of the VDV (Verband Deutscher Verkehrsunternehmen – association of German transport companies). See <https://www.vdv.de/jahresbericht---statistik.aspx>.

The yearbook is available online and in hard copy and is very detailed. The text, however, is only in German, so a working knowledge of that language would be a distinct advantage.

High speed rail competition in Italy

The International Transport Forum published this discussion paper in September 2016, following the liberalisation of rail services in Italy and the entrance of a serious competitor to the incumbent in the form of NTV.

In 1998, the Italian government split the state railway company Ferrovie dello Stato into a train operator (Trenitalia) and an infrastructure operator (Rete Ferroviaria Italiana – RFI). Both are controlled by FS Holding, which is 100% state-owned.

The report notes that there has been little recent growth in the Italian rail market. Between 1995 and 2010, passenger kilometres (PKM) grew by 77.7% in Great Britain, 53.4% in France, 44% in Switzerland, 37% in Spain and 27.6% in Germany – but shrank by 1.2% in Italy.

A new company, NTV, was established in 2006. It was initially wholly privately owned, but SNCF subsequently took a 20% stake. Services started in April 2012 – a reflection of the difficulty the company found in entering the market. They have invested over €1bn, including €628m in 25 new high speed trains and €90m in the maintenance depot near Naples. In its first year of operation, it ran 38 trains a day on the Turin – Rome – Naples axis, adding 45% to capacity (Trenitalia provide 89 services/day).

Prices started to decrease within months of the new services starting – about 30%, between 2011 and 2012 – but have not come down much since. There is market pricing and NTV offer three classes of accommodation. Now, the operators compete on quality of service instead of price.

HSR PKM in Italy grew from 8.9m in 2008 to 10.8m in 2009 and 12.8m in 2013. However, unlike other European countries, traffic on the conventional railway has not grown so total rail PKM in Italy in 2013 was 48.7m, compared with the previous peak of 50.2m in 2006.

In both Germany and Spain, between 50% and 60% of rail traffic is on high speed trains. This compares with less than 30% in both France and Italy.

Between Rome and Milan, the rail mode share has increased between 2008 and 2014 from 36% to 65%. The air share dropped from 50% to 24% and car from 14% to 11%. These trends started before NTV, but have no doubt accelerated due to the company's operation.

Trenitalia retains 75%-80% of the Italian high speed market. Its operating revenues since 2007 have hardly changed from 2007; they have stayed between €5,498m and €5,708m each year. Costs have decreased, from €5281m in 2007 to €4121 in 2014. More recently, there has been a reduction in track access charges – from €12.8/train-km in 2014 to €8.2 in 2015 – which will no doubt contribute to future improvements.

NTV has shown deficits every year until 2015 – and even that is subject to confirmation. In 2012 and 2013, the deficit was around €77m, but this reduced to €37m in 2014.

Recent IATA Statistics

I regret that I have fallen a bit behind in summarising these.

In mid-September, the **Airlines Financial Monitor** (AFM) for July/August was published.

Key points were that the latest financial results from Q2 2016 pointed to another solid quarter for industry profitability and cash flow, although CFOs report that they no longer expect further improvement in profitability over the next 12 months; global airline share prices fell by 1.6% in August, well down on where they started the year; Brent crude oil prices rallied during much of August; downward pressure on yields has intensified over the past six months or so, in line with the moderation in demand; premium airfares have held up better than economy on many key premium routes; the global air passenger market showed resilience into the peak summer period, with lower fares helping to offset more negative influences on demand; the industry-wide load factor edged down in July, but remains high; and conditions for air freight have improved from the weak patch seen in early-2016.

Available seat kilometres grew by 6.0% year-on-year in July. 114 new aircraft were delivered in July – slightly fewer than the 122 delivered in July 2015. Lower oil prices and robust demand have made it economical to keep less fuel-efficient aircraft flying. 70 aircraft were removed from the global fleet in July 2016, compared to 110 in June 2015. The industry-wide passenger load factor was 83.7% in July 2016 – just 0.1 percentage point lower than the record July high reached last year.

The **AFM** for August and September was published in mid-October.

This said that the latest financial results indicated that industry profitability remained solid in Q2. Global airline share prices rose by 0.9% in September, but remain well below where they started the year; Brent crude oil prices rallied towards the end of September following an agreement by OPEC to cut oil output; the intense downward pressure on passenger yields looks to have eased during 2016; the premium segment continues to be a buffer for overall airline financial performance; premium fares have held up better than those in economy on many of the main premium routes so far this year; the upward trend in traffic has eased, but the seasonally-adjusted industry-wide load factor remains at historically high levels; and conditions for air freight have improved from earlier in the year.

Growth in premium international passenger traffic has continued to lag behind that of economy. Premium international journeys accounted for 5.3% of the total over the first seven months of 2016, down from 5.7% a year ago. However, premium fares have held up better than those in economy on most of the top-10 premium routes. In fact, premium's share of revenues has *risen* slightly so far this year on the Europe-Asia markets and was unchanged across the Atlantic. These two routes accounted for nearly two-fifths of industry-wide premium revenues in 2015.

Annual growth in industry-wide traffic slowed to 4.6% in August, from 6.4% in July. Available seat kilometres grew by 5.8% year-on-year in August. 140 new aircraft were delivered in August – more than the 120 delivered in August 2015.

The September/October **AFM** was published on 9 November. It noted that the initial financial results from Q3 2016 point to another solid quarter for industry profitability and cash flow, although they add to earlier signs that the industry profitability cycle

may have peaked. Global airline share prices rose by 3.6% in October, but have underperformed the wider equity market this year.

Brent crude oil prices reached a 15-month high during October, but have fallen back so far in November. The oil market is slowly rebalancing and prices are expected to trend upwards gradually over the coming years. There have been further signs that the intense downward pressure on passenger yields eased during the middle part of 2016, in keeping with the change in the trend of oil prices.

The report confirms that the premium segment remains an important buffer for airline financial performance and that premium airfares have held up better than those in economy on many of the most important premium routes so far this year.

Developments in passenger traffic continue to reflect the net influence of a number of factors. Traffic was resilient in September, and the seasonally-adjusted industry-wide load factor increased to a nine-month high.

The monthly **Air Passenger Market Analysis** reports continue to reflect these trends.

The **July** report (published early September) showed that annual growth in industry-wide revenue passenger kilometres (RPKs) accelerated to 5.9% year-on-year in July – its fastest in five months. Middle Eastern carriers regained their position at the top of the chart, followed by airlines in Asia Pacific.

International demand for European carriers – the largest region in terms of international RPKs – has been affected by recent terrorist attacks and political instability in parts of the region. The impact is not yet wholly apparent in the annual growth rate, which increased to 4.1% in July. But the upward trend in seasonally-adjusted traffic has eased markedly in recent months; traffic has grown at an annualized rate of just 1.4% since March.

International traffic flown by Asia Pacific airlines rose by 9.8% year-on-year in July, with signs that the upward trend in seasonally-adjusted traffic is continuing. Reports suggest that Asian passengers are being put off by terrorism in Europe; traffic on the Europe-Asia route fell by 0.9% year-on-year in June and it has been the weakest-performing major route so far in 2016. It appears that Asian travellers may be substituting destinations closer to home; international traffic growth within Asia accelerated to a four month-high of 8.1% year-on-year in June.

Having trended down since July 2015, North American carriers' international traffic has also picked up in recent months.

Domestic air travel growth slowed to 3.8% year-on-year in July – its slowest pace in 18 months. The domestic India and China markets are in top gear; they posted annual growth of 26.2% and 10.2% respectively in July. This has been propelled by strong growth in real consumer spending. In addition, airlines are adding lots of airport-pairs and frequencies, which cuts journey times for passengers and has the same effect on demand as a large cut in fares. Both Indian and Chinese airlines are adding more airport-pairs in 2016 which will stimulate travel, although average frequencies in China are now scheduled to fall slightly.

By contrast the other markets are stuck in neutral at best – all posted year-on-year growth below 2% in July. The domestic US market – the largest in the world – has been fitful in 2016 so far, despite the comparatively robust economic backdrop.

Moreover, although the load factor remains high, the US was the only domestic market in which loads fell relative to July 2015.

Passenger traffic in the mature domestic Japan and Australian markets grew by just 0.9% and 0.2% year-on-year respectively in July. Traffic in Japan has trended sideways for the past 18 months, in keeping with underlying weak momentum in consumer spending.

The **August** report, published at the beginning of October, showed that annual growth in industry-wide RPKs slowed to 4.6% year-on-year in August, from 6.4% in July. Airlines from the Middle East and Asia Pacific regions posted the fastest traffic growth for the third month in a row.

The trend in European international traffic picked up in August, which suggests that conditions are getting back to normal.

Annual growth in international RPKs flown by Middle Eastern airlines dropped in August but stayed in double digits (10.3%). The strong upward trend in traffic remains in place. However, passenger capacity growth has continued to outstrip that of demand; load factors on the largest routes to and from the Middle East, those between Asia and Europe, fell by 2.3 and 3.0 percentage points respectively in the first seven months of 2016, compared to the same period in 2015.

North American carriers' international traffic has also continued to trend upwards in recent months. While growth was a subdued 1.8% year-on-year, seasonally-adjusted volumes have risen at an annualized rate of around 7% since March, helped mainly by stronger growth across the Pacific, as well as on tourist routes to Central America and the Caribbean. Given the shape of developments last year, annual growth is likely to pick up further in the coming months.

The domestic US market grew by just 1.0% year-on-year in August.

The **September** report, published early November, showed that annual growth in industry-wide RPKs accelerated to 7.0% year-on-year in September – a seven-month high. Airlines from the Middle East and Asia Pacific posted the fastest traffic growth for the fourth consecutive month, with double-digit annual increases in both cases. However, every region posted solid year-on-year growth, in excess of 4%.

Annual growth in international RPKs rose to 6.9% in September, from 4.4% in August. Year-on-year growth accelerated in all regions.

International demand for European carriers appears to be getting back to normal after the disruption caused by terrorism and political instability earlier this year. The seasonally-adjusted trend picked up in Q3 and year-on-year growth accelerated to 5.2% in September.

The upward trend in North American carriers' international traffic has eased of late, but seasonally-adjusted passenger volumes have still risen at an annualised rate of around 6% since March. The transpacific market is solid, with volumes rising by 4.3% year-on-year in August. The domestic US market expanded by 4.6% year-on-year in September.

The **October** report was published in early December. Annual growth in industry-wide RPKs eased back to 5.8% year-on-year in October from 7.1% in September. Airlines

Air

from the Middle East and Asia Pacific posted the fastest traffic growth for the fifth month in a row, while North American carriers posted the slowest rate of change.

Annual growth in international RPKs moderated to 5.9% in October, from 7.2% in September. Europe was the only region in which year-on-year traffic growth accelerated compared to September 2016.

International traffic flown by Asia Pacific airlines – the second largest international region – rose by a robust 7.0% year-on-year in October. The strong upward trend in seasonally-adjusted traffic has slowed in recent months, although it is too soon to say whether this is a true weakening or just a brief pause. Traffic on international routes within the region grew by 6.3% year-on-year in September.

The domestic US market expanded by 1.7% year-on-year in October. Having trended sideways in seasonally-adjusted terms since late-2015, passenger traffic picked up in September and held on to this gain in October, in keeping with signs of strong momentum in consumer retail spending.

Unlocking the potential of the airport megazone

This report, on the zone around Toronto Pearson airport, was published by the Neptis Foundation in October 2016.



Pedestrian unfriendly area near Toronto Airport

The area around Pearson has the second most significant concentration of jobs in the country, after downtown Toronto itself. There is little residential development, because of airport-related development restrictions. The megazone is part of four local authority areas and is also subject to planning by the airport authority (GTAA) – this inhibits comprehensive planning of any aspect of the area and makes the employment concentration invisible to planners and decision makers.

There is a significant concentration of jobs in manufacturing, construction and utilities, as well as warehousing and transportation. Included in the manufacturing sector is that related to aircraft – for example by Pratt & Whitney. Of the 35,000 jobs in transportation, 10,000 are in air transportation, nearly 13,000 in transportation support activities and nearly 10,000 in truck transportation. Finance and business are also important sectors.

The zone comprises four logical sub-zones – the airport itself and the areas north, east and south of it. The airport sub-zone has the largest concentration of jobs, with 40,000 being employed at the airport.

The area has been developed at low density, which gives the potential for redevelopment and infill – and for integration of land use and transit, as well as car dependency. As transit improves, some of the land dedicated to surface parking can be redeveloped. However, this will need to be done in conjunction with improvements to pedestrian facilities and the public realm. Planning needs to be done recognising the potential agglomeration benefits.

The report makes the point that there are many ‘assets’ in the area – the airport, hotel and convention facilities – but each has been developed in isolation in a relatively

“inhospitable and unwalkable urban environment with few other amenities”. A visitor district could be created to improve the character of the area.

About 300,000 people work in the zone; about 268,000 work trips end there each weekday, of which 94% are made by car. Including trips by air passengers, there are over a million daily trips to and from the zone. The zone is the biggest generator of car trips in the region and a major source of congestion. Just over a quarter of work trips are less than 10 km; just over half are between 10 and 30 km (and most of these are from the east). 82,000 (30%) come from the south, with 70,000 from the west, 65,000 from the east and 50,000 from the north. The east – the direction of downtown Toronto – has the highest percentage of transit work trips, at 9%. From other areas, it is 4%-5%. This highlights the potential for improved transit from the south and west – both badly served at the moment.

About 33,000 trips each day are by air passengers – that is 6% of the total trips. 88% of these are by car, cab or limo.

The report comments that jurisdictional fragmentation results in fragmented and uncoordinated transit investments, not serving the zone as a whole. The area is not prioritised or recognised. Fragmented planning results in a lack of a comprehensive view of the built environment and public realm, so no-one is responsible for making the area more attractive or ensuring that development is transit-friendly.

Airline trend data

Airlines tend to report their financial and operating statistics quarterly, usually with a comparison with the same quarter in the previous year. This is a fair and sensible comparison – IAG (owners of BA, Aer Lingus, Iberia and Vueling) report revenues of around €4bn in Q1, €5bn in Q2 and €6bn in Q3, so reporting a comparison with the previous quarter makes no sense.

Preferring a longer period for comparison, I have been gathering together selected airline data – usually total reported passenger revenue, revenue passenger kilometres (RPK), available seat kilometres (ASK) and passenger numbers – for the last few quarters and putting them together as a moving annual trend. This trend, of course, removes seasonal factors – it always includes quarters 1, 2, 3 and 4. The trend figure is the total of the most recent four quarters, and can be compared with the trend over the last few sets of 4four quarters.

IAG’s passenger revenue for the four quarters to Q4, 2015 was €20.38bn. It increased to around €20.7bn-€20.8bn in the years to Q1, 2016 and Q2, 2016 before dropping back to €20.4bn in Q3, 2016. Passenger kilometres, on the other hand, have increased steadily from 222bn to 242bn over the same period. Available seat kilometres have increased pretty much in parallel, from 273bn to 296bn. Passenger numbers have also increased steadily, from 88m to just short of 100m. This implies that revenue/passenger kilometre has not moved in line with either passenger numbers or passenger kilometres, i.e., fares are coming down.

Air Asia, a Malaysian new entrant carrier, has managed to increase all of its figures more or less together. Revenue has increased from 6,305bn ringgit in the four quarters to Q4, 2015 to 7,177bn in the four quarters to Q3, 2016. Their RPK figure has gone up from 30bn to 34bn, while the ASK figure has increased rather less – 37.5bn to 39.5bn. Passenger numbers are up from 24m to 26m, so they have increased their load factor and their earnings/RPK.

Meanwhile Air France/KLM shows a static if not declining business. For the year to Q4, 2015, revenues were €20.5bn. By the year to Q3, 2016 this had dropped to €19.9bn. PKM, ASK and passenger numbers were pretty static at around 235m, 277m and 80m, respectively. They have been badly hit by strikes – both their own staff and air traffic controllers (see the August newsletter).

Air passenger transport in the EU

Eurostat issued a report on this in October.

In 2015, 918.3m passengers travelled by air in the EU. This was 4.7% up on 2014's figure, and 22% up on 2009 (at the bottom of the Great Recession).

Intra-EU traffic was 45.2% of the total, traffic between outside and inside made up 37.2% and purely domestic was 17.6%.

In 2015, 155 people were killed in commercial air transport accidents. Since 2009, 211 have been killed. Presumably the 2015 figure includes the 144 killed when the co-pilot of a Germanwings aircraft committed suicide by flying into a mountain.

In 2015, a quarter of air passengers in the EU flew to or from the UK. The UK recorded 232m passengers, Germany 194m, Spain 175m, France 141m and Italy 127m. The UK was top of the chart in intra-EU and international passengers with 138m and 72m respectively. Spain was second in intra-EU with 118m and Germany third, with 103m. No-where else saw more than 100m. Germany was second in international traffic with 68m and France was third with 51m. The positions change with domestic traffic – Spain is first with 31m, Italy second with 30m, France third with 28m, Germany fourth with 23.2m and the UK fifth with 22.8m (and no-one else above 10m).

ACI reports robust passenger and freight growth

With the slowdown of holiday travel and tourism in October, global passenger traffic at the world's major airports rose 5.1% year-on-year while international and domestic traffic grew 6.1% and 4.4%, respectively. These figures are below the twelve-month average trends of 5.7%, 6.3% and 5.3%.

With the exception of Africa, which experienced a drop of 4.3%, all regions posted gains in passenger traffic. Ongoing security concerns in northern African States have left the region's air transport demand in a weakened state. Asia Pacific airports reported the greatest increase in passenger traffic with gains of 8.4%. Guangzhou (CAN), Incheon (ICN), New Delhi (DEL) and Kuala Lumpur (KUL), four of the region's major hubs, grew 11.8%, 12.6%, 19.2% and 14.6% respectively. Robust growth of 5.8% in passenger traffic was achieved across airports in the European region. Amsterdam (AMS) and Barcelona (BCN) grew 8.7% and 10.9%, respectively.

For a second consecutive month, air freight markets demonstrated strong gains. After witnessing a 5.7% growth rate for the month of September, freight volume increased 6.6% in October, far above the 2.1% twelve-month growth average. The impressive 9.9% growth rate in international freight was accompanied by a 0.5% decline in domestic air freight volumes. All regions witnessed gains – the Middle East and Asia Pacific markets recorded the strongest growth at 11.5% and 10.2%, respectively. The release of new key electronic products in October, mainly mobile devices, contributed to the surge of air freight traffic. Dubai (DXB) and Doha (DOH), the two main hubs in the Middle East, observed an increased growth rate of 9.5% and 21.5%, respectively. Similarly, Shanghai (PVG), Incheon (ICN), Tokyo (NRT) and Taipei (TPE), four of the

Air

top five airports with respect to freight traffic in Asia-Pacific, witnessed double digit growth of 11.3%, 10.6%, 10.9% and 13.6%, respectively.

Road

Portland's Vision Zero

It has been a bad year for traffic deaths in Portland (Oregon), a famously walkable West Coast city. In two separate incidents on the same night, drivers hit and killed two pedestrians. Their deaths bring the city's 2016 traffic fatality total to 40, the most for Portland since 2003 and slightly more than the 20-year average of 36 annual traffic fatalities.

However, the city hopes to get that number of traffic deaths to zero by 2025. In June 2015, the city adopted a "Vision Zero" resolution, but did so without a specific plan for accomplishing the goal. Nearly 18 months later, the Portland Bureau of Transportation (PBOT) released a Vision Zero Action Plan. Adopted unanimously by the city council on December 2, the plan lays out short-term and long-term engineering, education, and enforcement goals. It was created with input from a task force and advisory committee. The task force members represented PBOT, the Oregon Department of Transportation, police and fire departments, the auto and trucking industries and community groups.

The action plan maps out a "high crash network" of the most dangerous streets in Portland (according to the plan, 57% of fatal crashes occur on just 8% of streets) and establishes 32 items for the city to implement over the next two to five years. They include plans for infrastructure and design changes, curbing impaired driving, stopping speeders, and improving education and outreach. It also includes metrics by which to measure their progress on everything.

The plan says, "Streets should discourage dangerous driving by design. The safest streets slow down traffic, separate different modes and provide visual cues that make it clear that people using different modes share the space." It sets a goal of building capital safety improvements on two segments and five intersections of the high crash network each year for the next two years.

To curb speeding and dangerous driving, a speed camera pilot program will be implemented on four high-crash corridors and the city's red light camera programme will be expanded.

The plan continues to say that PBOT will "prioritize filling gaps in infrastructure where those gaps contribute to fatalities and serious injuries or limit the transportation options of communities of concern" and that it will "not result in racial profiling."

Concerns about enforcement are part of the reason the plan calls for using speed cameras instead of increasing the number of officers patrolling for speeders.

As is often the case, laying out the plan and finding ways to pay for it remain two separate things for PBOT. They have some funding in place, but not enough to pay for everything. In fact, several of the near-term items in the plan are about finding sustainable funding sources for Vision Zero.

In the meantime, the city plans to use a portion of its gas tax revenue. Thanks to a successful amendment – some of the city's recreational marijuana tax revenue will go toward funding Vision Zero initiatives.

Road

Annual bus statistics England 2015/16

This was published by DfT in mid-October.



Bus near Luton Airport

Headline news is bad. Passenger journeys by bus are down – 3% in London, 2.5% in Metropolitan areas and 1.7% elsewhere. Vehicle mileage is down by similar percentages, except in London where it was up 0.6%.

4.53bn journeys were made by bus in the year, down 119m on 2014/15. It has however remained fairly steady at this figure over the last 5 years.

In metropolitan areas, there were 0.97bn passenger journeys; outside, there were 1.27bn. In London there were 2.29bn. The 3% decrease is the first since 2012/3 – before that, it increased every year from 1998/9. Congestion and road works affecting journey speeds were cited by TfL as probable causes.

A chart shows use by local authority area outside London. Brighton & Hove and Nottingham are the two largest areas for bus use, with around 160 journeys/head/year. Central Bedfordshire and Rutland are at the bottom of the table, with less than 20.

Outside London, bus mileage has decreased by 7.9% since 2005/6, mainly because local authority supported mileage has dropped by 36.7%. Supported mileage was 17% of the total in 1987/8, increasing to a peak of 24.2% in 2009/10. It is now 15.2%.

82.6% of the 'non-frequent' services ran on time (between 1 minute early and 5 minutes 59 seconds late). This is better than the 81.4% recorded in 2010/1. Non-frequent services are those which run less than six times/hour.

Operating revenue was estimated at £5.57bn, of which 59% (£3.28bn) came from passenger fares. Bus Service Operators Grant (fuel duty rebate) has decreased – it is now 5% of total revenue. Concessionary fare reimbursement was £1.05bn.

Outside London, operating costs were £3.05bn.

There are approximately 2.6m timetabled bus services each week in England, run by 690 operators.

Safety in numbers

A recent report "Safety in numbers for cyclists in England: measuring the effect" by Road Safety Analysis Research Ltd. 2016 showed some interesting data on this topic.

In Copenhagen, where cycling increased by 44% between 1995 and 2006, the number of cyclists killed or seriously injured dropped 60%. In the Netherlands, cycling increased 45% between 1980 and 2005 but cycling fatalities decreased by 58%. This supports the theory that, if you increase the numbers of people walking and cycling, their safety improves.

There is quite a lot of research and evidence on the subject, although methodologies are different and it is difficult to compare studies. Establishing how to predict what happens when cycling increases by a specific percentage is very difficult.

Road

In the UK, it has been possible to use Local Authority District (LAD) data to establish the number of cyclists/1000 population; the proportion of casualties based on cycling exposure; the risk/1000 cyclists; statistics for levels of cycling (/1000 population) and risk (/1000 cyclists); LADs with high and low cycling levels (/1000 population); and LADs with high and low levels of risk (/1000 cyclists) and compare the results using regression.

LADs were put into four groups – high risk (large numbers of accidents), high level of cycling; high risk, low level of cycling; low risk, high level and low risk, low level.

In all cases, the relationship between cycling levels and risk is negative – more cycling correlates with fewer accidents. However, in the first two cases the results were not statistically significant: there is more to it than meets the eye.

The author concludes that where there is high risk and low levels of cycling, there is the greatest potential to reduce risk, although the absolute risk to new cyclists will be greater.