

Passenger Focus Bus Punctuality Project

Bus Punctuality seminar, 19 September 2013

The project and the seminar

Improving punctuality is bus passengers' top priority¹. So, two years ago, Passenger Focus started a Bus Punctuality Project to understand more about when, where and why buses are delayed and what can be done to help them run on time. We also wanted to better understand what punctuality data operators and authorities collect, and how to make the most of it.

Today's seminar will provide a range of perspectives on how to tackle late-running.

Last month, the Senior Traffic Commissioner launched a consultation on revised statutory guidance and she is participating in today's seminar, offering a timely opportunity for her to explain her proposals and for delegates to present her with some early feedback.

We are grateful for the support and advice given by bus operators, local authorities and passenger transport executives (PTEs), the Department for Transport (DfT), the Vehicle and Operator Services Agency (VOSA) and the Traffic Commissioners.

Case studies

We have worked in partnership with operators and councils in Cambridgeshire, Derby, Devon and Hertfordshire and in each of the six English PTEs, studying data on fourteen bus routes and trying to bring about improvements. The routes include both commercial and tendered services, and a mix of operators, urban and rural areas, frequencies and route lengths.

Gathering and using punctuality data

Several of the urban and metropolitan authorities and operators with whom we have been working have access to comprehensive GPS route-based punctuality data. This is often linked to real-time information systems. Many of them supplement this data with targeted route- or corridor-based monitoring exercises carried out by staff travelling on the bus. Others, including a number of the PTEs, do not have access to GPS data and hence still have to rely on limited samples of manual data. In some rural areas, authorities and operators have comprehensive GPS route-based punctuality data, but in others they have no such data, relying on annual surveys based on on-street observations at a sample of bus stops.

The GPS-based data is potentially a very rich source of information but, while it may tell you *when* and *where* buses are late (or, indeed, early) it will not tell you *why*.

¹ *Bus passenger priorities for improvement*, Passenger Focus, March 2010

Limited coverage or technical glitches can also reduce its usefulness. Manual checks offer less comprehensive data and are more labour-intensive to conduct but they can help to explain *why* buses are departing stops early or late.

Even where sufficient data exists, some operators and authorities struggle to take advantage of its potential. Often there is no dedicated resource for analysing data and the particular statistical and problem-solving skills required are not always available among the staff to whom the task falls, a problem compounded by staff sickness and turnover.

All of the operators we spoke to have systems for reporting on punctuality and acting to address concerns. These range from regular, formal and structured statistical reporting of the performance of each route to much more fluid and small-scale problem-reporting procedures.

Many of the PTEs have highly sophisticated systems for reporting on punctuality, producing graphs and tables showing high-level performance trends, sometimes in the form of actual data, on other occasions in the form of rolling averages, offering month-on-month and year-on-year comparisons.

Understanding where, when and why buses are delayed

Our case studies shed light on the ways in which data is analysed in practice and used to identify and deliver measures to improve punctuality.

- In the West Midlands, Centro carried out a detailed study of the Automatic Vehicle Location (AVL) data made available to them by National Express, alongside their own on-bus survey data, noticing precisely where and when the average speed of buses was declining, and recording obstructions such as parked cars or the impact of dwell time at stops.
- In Devon, the council and Stagecoach South West agreed to carry out an on-bus performance survey, focusing 80 specific journeys. Surveyors noted any periods when the bus was stationary or moving slower than normal and the reasons for that. A similar exercise was carried out by Devon County Council for the 359 service it supports.

In Derby, Tyne & Wear and West Yorkshire drivers played a key role in identifying the causes of delays.

- The team leader of Trent Barton's *Spondon Flyer* service in Derby alerted management to morning peak journeys where increased congestion on the business park was adding to the length of time spent queuing to get onto the bus lane. A survey on three successive weekdays found that between 8 and 9.30am 60 per cent of services were departing more than five minutes late.

- In Tyne & Wear, Go North East followed up analysis of punctuality data for route 56 with a meeting of three regular drivers and two supervisors. This produced an extensive list of pinch points and helped create an action plan for improving punctuality on the route.
- In West Yorkshire, tentative conclusions from an on-bus survey were challenged by a route test. An Arriva Yorkshire driver with 35 years of experience on route 110 was accompanied on the drive by senior Arriva colleagues and staff from the relevant local authorities and Metro.

The driver's experience enabled him to reflect on problems encountered around the clock, while his vivid and detailed descriptions and answers to questions ensured that all relevant information was captured. Staff from Metro and the councils then developed a plan for tackling the causes of delay, involving signalling engineers and other professionals.

Reasons for delays

Boarding and alighting was highlighted as an area where delays occurred in Devon, Merseyside, West Midlands and West Yorkshire.

- Some elderly passengers and parents with buggies or toddlers took longer to find their seats (a delay exacerbated by understandable company policies of not departing the stop until passengers have sat down), while tourists and visitors to the area sometimes needed to ask the driver questions when they got on.
- Some passengers needed help to understand the best ticket for them when presented with complex fares package options (particularly in the absence of information or ticket-buying facilities at the bus stop). Some ticket machines can be quite complex and even experienced drivers can spend some time finding the correct code on the ticket machine for lesser-used tickets.
 Passengers searching for the right money (for example tourists and visitors buying National Express 'exact fare' tickets) and drivers dispensing change all takes time. Passengers did not always have their smartcards ready when they got on; some systems are a split second quicker than others at recognising cards, which can make a difference when passenger volumes are high.
- The design of buses may also not be helping. Outside London, most buses have only one set of doors, at the front. Passengers can only start to board the bus once all those getting off have worked their way to the front of the bus, and this extends the time the bus spends at stops.

Traffic and highway design was mentioned to a greater or lesser extent in all of our case studies.

- Partners specifically mentioned the increasing volume of traffic and constraints on road space in a number of the big cities. Narrow roads limited the scope for

sufficiently-wide bus lanes and increased the impact of parked cars and other obstructions.

- Recurrent problems included poorly designed junctions, turning vehicles, the absence of yellow boxes or patchy enforcement of them, rat-running traffic, the phasing of signals and pedestrian crossings.

Parking and loading were also frequently mentioned as causes of delay.

- Inconsiderate parking effectively turned sections of two-way streets into one-way operation, and made negotiating narrow streets and tight junctions even trickier. This was not just a weekday problem; it also happened on Sundays (for example, car boot sales) and in evenings (such as outside night clubs and chip shops).
- Several case study areas noted a failure of enforcement authorities to take action against illegal parking.
- Some completely legal parking still caused problems, when on unsuitable roads.
- Parents dropping off children in the morning caused problems for bus routes with schools (some of our case study routes had several schools on them).

Getting in and out of bus stations was cited as a problem in several instances.

- The time taken to exit the bus stations in Wakefield and Leeds was a major cause of delays to Arriva Yorkshire's 110 service in West Yorkshire. The driver on our route test reflected that it would regularly take four minutes for the bus to emerge from Leeds bus station. Arriva's buses are frequently blocked by traffic queuing to access the car park of the adjacent Markets area.
- In Derby, some bus priority measures were introduced by the city council, but a bus lane on Kedleston Road was removed. Trent Barton services continued to be affected by traffic congestion and struggled to get in and out of the bus station, despite work carried out to the access road within six months of the site opening to make it easier for vehicles to enter and exit the site.

Inadequate recovery time at the end of a journey proved to be a recurrent theme. Setting a timetable to reflect variable traffic conditions can represent a considerable challenge, and operators are often faced with the dilemma of whether to add in an extra bus, and thus increase their costs, or reduce frequency and allow more running and recovery time, which can affect patronage.

- Trent Barton recently faced just such a dilemma. Punctuality monitoring last year showed that the three-minute cushion for its Sunday *Spondon Flyer* service gave insufficient turnaround time to guarantee reliability and, with some reluctance, decided to continue the service with an additional bus (bringing it up to two) and a 33-minute layover.

- In the West Midlands, the knock-on effects of poor peak-period performance into the morning 'inter-peak' means that, although congestion levels have fallen, buses still run late following late running on earlier, peak-time journeys. Buses going against the peak traffic flows start late because of delays to the incoming service and find it difficult to catch up. Minimal layover time of no more than one or two minutes in Birmingham city centre offers no leeway to buses on route 97/97A.

A number of other reasons for delays have been highlighted through these case studies.

- **Roadworks:** it is by definition impossible to plan for emergency or over-running work. Roadworks on parallel routes can have an almost equally damaging impact on schedules by causing significant volumes of traffic to divert onto the bus route.
- **Exiting bus stops:** buses can be delayed re-entering the traffic flow after leaving a stop. This can be a particular problem where stops are positioned too close to traffic lights.
- **Ad hoc events** such as demonstrations, burst water mains, and road traffic accidents can cause problems with implications for services in both directions for large parts of the day.
- **Buses and drivers:** some old and poorly-maintained buses can be much slower going uphill than newer vehicles. Cautious drivers who, for example, wait for a significant gap in the traffic at a junction or roundabout, can take 10 minutes longer to drive a route than bolder ones who may not always wait for every single passenger to be seated before leaving a bus stop.

Action to improve punctuality

In a number of cases, operators have reacted swiftly to introduce changes to routes and timetables.

- In Merseyside, having listened to the arguments of passengers and reviewed performance against the timetable, Arriva North West changed the route 79 timetable in January 2013. The Traffic Commissioner gave 'Short Notice consent'² to reinstate the five-minute frequency on the extended section of the route. This cost more as an extra vehicle was needed, but restored the links.
- In Tyne & Wear, West Yorkshire and Greater Manchester, operators have drawn up detailed action plans and are working with PTEs and local highway authorities to tackle a range of obstructions which are delaying buses.

² This is the process by which the Traffic Commissioner can agree to a change in the registered details of the service with less than the normal required notice period.

Conclusions

While not representing a statistically-valid sample of the country's vast variety of bus routes and operating environments, our case studies highlight the challenges of setting timetables to reflect variable patterns of traffic and patronage and thrown up a number of recurrent themes, including traffic and parking, boarding and alighting, inadequate recovery time and, perhaps most surprisingly, getting in and out of bus stations.

Operators have demonstrated the value of listening to passengers and, in particular, to drivers, in a structured way. Data has generally been used as a trusted, supportive evidence base rather than a diagnostic tool. Typically it is used reactively to validate concerns raised by drivers and supervisors, to provide historical comparisons, to help determine the need for interventions, to provide evidence for business cases, and to monitor the effectiveness of interventions at improving performance.

Partners have stressed the value of focussing on trying to understand what has happened on the worst individual journeys, rather than looking at averages, which can be misleading.

We urge local authorities and operators to routinely engage with each other to use their data and experiences on delays to better manage the highway network in relation to bus punctuality. And we urge local partners to make full use of their existing Bus Punctuality Improvement Partnerships (BPIPs) when acting to make the buses run on time.