



# Railway engineering work:

Putting passengers at the heart of  
the London Waterloo upgrade  
February 2018



# Foreword

Investment in the rail network is welcome and much-needed, whether it is for renewing worn-out equipment, electrification or major improvements to the infrastructure or to stations. These all promise better journeys for passengers in one way or another.

**H**owever, passengers are enduring significant disruption before these benefits are delivered. To retain the confidence, trust and support of its passengers, the rail industry needs to give meaningful consideration to people's needs when planning and undertaking engineering work. This includes thinking about how it will affect different journeys and ensuring that information is available when passengers need it.

Transport Focus worked previously with Great Western Railway on two major projects, at Reading and Bath Spa, which resulted in recommendations to the industry on ensuring the passenger is put at the heart of disruption planning.<sup>1</sup> This led to work with the South West Trains/Network Rail project team planning the Waterloo & South West Upgrade, which required the part-closure of London Waterloo station for three weeks. They saw the benefits our previous work had delivered in monitoring passengers'

awareness in advance of the work, and understanding their information requirements. We are also currently working with East Midlands Trains, CrossCountry and Network Rail on the upgrade to track signalling at Derby in summer 2018.

This report builds on our previous studies, and provides further learning points for the industry about the content, type, tone and timing of information that different passengers require, as well as their perspective on the handling of the disruption itself.

An important message from passengers remains: **'provide me with clear information about how my journey will be affected (including level of impact, alternative travel arrangements and timetables) and support me as I undertake my disrupted and potentially unfamiliar journey'**.

**Guy Dangerfield**

Head of strategy

# Introduction

Transport Focus has had a long-standing interest in ensuring that the passenger perspective is taken into account when planning for engineering works that disrupt the normal train service. We have conducted a number of surveys into passengers' expectations and experiences of engineering works, most recently *Rail passengers' experiences and priorities during engineering works*<sup>2</sup> and *Routine railway maintenance: passenger perspectives and priorities*<sup>3</sup>.

**We want to see the railway learn from experience, with new infrastructure projects taking into account what went well – and not so well – on previous projects. We have worked with Great Western Railway looking at passengers' expectations for the remodelling of Reading station. This led to further collaboration when work at Bathampton and in Box Tunnel resulted in significant service alterations at Bath Spa station in July/August 2015.**

We developed a programme of research starting with focus groups exploring passengers' expectations and reactions to different communications drafts. We then ran a survey among passengers using routes through Bath Spa. This happened before the communication activity started, and gave us a benchmark measure of passenger awareness and expectations. Further surveys in June and July/August looked at how successful the communications activities had been in raising awareness and informing passengers about the works and alternative travel arrangements, and on the overall passenger experience of the works.

*Planned engineering work – the passenger perspective*<sup>4</sup> summarises key findings from our Bath Spa and Reading research. It provides valuable learning points for the rail industry as a whole, and led to our work with the South West Trains (SWT) and Network Rail project team planning the Waterloo & South West Upgrade. Here we carried out a similar programme of research to inform communications activities ahead of the part-closure of London Waterloo station in August 2017.

The Waterloo & South West Upgrade programme is an £800 million investment to create 30 per cent more space for passengers during the busiest times of the day. It should deliver:

- 30 brand new trains providing 150 extra carriages
- longer trains on suburban routes and on services to Reading
- five new platforms at London Waterloo (in the old International Terminal)
- a bigger and better station at London Waterloo
- new technology to make trains more efficient and improve punctuality.

*South West Trains customer information leaflet (incorporating the map detailed on the next page)*

<sup>2</sup> <https://www.transportfocus.org.uk/research-publications/publications/rail-passengers-experiences-priorities-engineering-works/>

<sup>3</sup> <https://www.transportfocus.org.uk/research-publications/publications/routine-railway-maintenance-passenger-perspectives-priorities/>

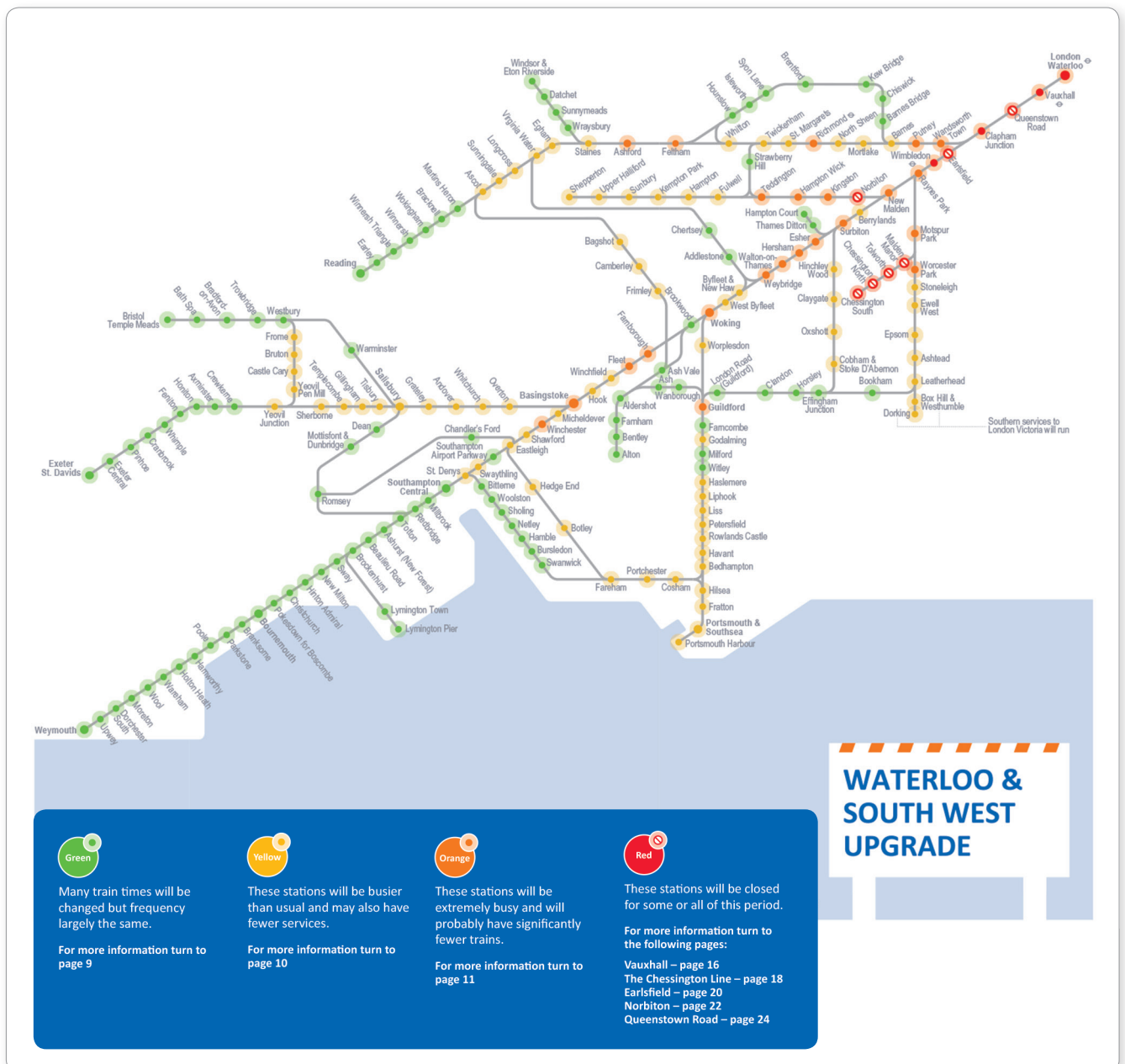
<sup>4</sup> <https://www.transportfocus.org.uk/research-publications/publications/planned-rail-engineering-work-passenger-perspective/>

To deliver these benefits, it was necessary to close platforms 1 to 10 at London Waterloo from 5 to 28 August 2017, for work to extend platforms 1 to 4 to accommodate longer trains. During this time, fewer trains could be run, which meant significant reductions in services for some stations. Stations on the Chessington branch were closed (with a rail replacement bus service provided) as were Earlsfield (peak hours only), Queenstown Road and Norbiton. The impact on journeys varied depending on where and when passengers were travelling but virtually the whole South West Trains network was affected.

Prior to the work, there was a communications campaign to make passengers aware of the alterations and provide them with advice to consider:

- travelling from a different station or via an alternative route
- travelling earlier or later than normal
- working from home or taking a holiday during some or all of the period, if able to do so.

A website provided information for passengers, and leaflets were handed out at stations on a number of occasions. Banners and posters were put up at stations, and announcements were made at stations and on trains. Communications were also directed at employers, local businesses and neighbours.



## Method

**Our research programme began with focus groups to explore what information passengers felt they needed and how best this should be delivered. Passengers were also invited to comment on draft communications materials, and their views were valuable in influencing the design of the campaign.**

To monitor the effectiveness of the communications campaign (and to allow fine-tuning of the campaign as it unfolded), we carried out four waves of a passenger survey:

- **Wave 1** – November/December 2016 – initial benchmark
- **Wave 2** – February/March 2017 – after the start of the communications programme
- **Wave 3** – May/July 2017 – immediately pre-works
- **Wave 4** – August 2017 – during the part-closure.

In each wave, we surveyed around 750 passengers. Roughly two thirds were approached as they passed

through a sample of affected stations, and handed a self-completion questionnaire to fill out and return in a 'freepost' envelope provided. The remaining third were interviewed online, either in response to invitations emailed to South West Trains season ticket-holders or subscribers to their disruption alerts, or in response to Twitter invitations. The samples were carefully matched to ensure comparisons could be made across the four waves.

In addition to the four waves of the 'tracking' survey, during the part-closure we set up a small panel of commuters using London Waterloo and invited them to provide daily feedback on their journeys. Transport Focus staff also monitored social media posts relating to the works and the disruption, and staff members were at London Waterloo during morning and evening 'peaks' to assess how well the arrangements were working. Feedback from the commuter panel and our people at the station was immediately provided to the project team for them to improve the passenger experience.

On 15 August 2017, during the part-closure, a train using one of the remaining operational platforms at London Waterloo derailed. There were no injuries but the service was severely disrupted over two days. Wave 4 fieldwork was suspended on those days.

South Western Railway took over the franchise previously held by South West Trains on 20 August, towards the end of the part-closure. In practice, the handover had no obvious detrimental impact on passengers. We are pleased to have

engaged with South Western Railway during the transition phase and shared our findings and related observations with both operators and Network Rail.

This report summarises the key findings of our London Waterloo research programme. It also documents some key observations we made during our monitoring of the arrangements at the station during the part-closure. Finally, we review and update the recommendations we made following our previous research at Bath Spa.



*Hoardings at London Waterloo screening the former International Terminal*

# Research summary

## Building awareness of the works

We monitored the effectiveness of the various communications activities used to build awareness of the works and the part-closure. In our benchmark wave some nine months before the part-closure, and ahead of any timetable details being published, two out of five passengers were already aware of the work planned for the following summer.

Figure 1 **Growth in awareness over time – London Waterloo works**

		Base	
<b>Wave 1</b> – initial benchmark	November/December 2016	(746)	41% aware
<b>Wave 2</b> – post comms ‘launch’	February/March 2017	(781)	81% aware
<b>Wave 3</b> – immediately pre-works	May/July 2017	(756)	88% aware
<b>Wave 4</b> – during the part-closure	August 2017	(798)	97% aware

**With communications activity ramping up in the New Year, awareness had risen to eight out of ten in February/March 2017, and reached 97 per cent by the time of the works in August.**

Awareness was consistent across the different routes into London Waterloo and across different stations, whether these would be lightly impacted, heavily impacted, or closed during the works. Unsurprisingly, commuters and more frequent travellers showed higher awareness levels than those travelling less frequently.

These awareness levels are higher than those achieved in our research around the works at Bath Spa where awareness peaked at 84 per cent. However, Bath should

still be seen as a success given the different passenger mix, with far more occasional/leisure travellers whom it was difficult to reach with any form of communication.

In terms of the key messages the campaign aimed to deliver, a month before the part-closure, 92 per cent were aware that there would be an impact on train travel in and out of London Waterloo, and 84 per cent were aware that the number of trains running would be reduced. Just over half were aware that the impact would vary depending on where and when people were travelling, and a similar proportion that the works were planned for August because fewer passengers tend to travel at this time. However, only 17 per cent were aware of the additional service reductions

over the August bank holiday weekend. We raised this as a concern with the project team. It was exacerbated by the need to impose additional service reductions from the Thursday before the bank holiday as a result of the derailment.



*Typical South West Trains station banner (at Basingstoke)*

## Information channels

As with previous research around rail infrastructure projects, our study shows the importance and value of providing information through a variety of different channels. Banners and posters at stations were key to getting the message across early in the information campaign, while leaflets handed out at stations were successful in generating initial awareness and the use of vinyl window stickers was a novel approach which seemed to generate substantial cut-through. Announcements made on trains and at stations were also significant channels – with anecdotal evidence that



*Vinyl carriage window sticker*

guards making 'live' announcements was preferred over pre-recorded messages. Social media only really played a role in the final few weeks, as did timetable information (paper or online), which wasn't available until relatively late.

Figure 2 **Key channels through which passengers learnt about the planned works at London Waterloo**

	W1	W2	W3	W4
Posters/banners around a station	17	51	72	78
Announcements made at a station	3	28	30	57
Announcements made on a train	2	38	28	56
Leaflets handed out at a station	21	28	27	51
South West Trains website	10	20	22	40
Posters/stickers displayed on a train	N/A	17	26	28
South West Trains social media page	4	14	12	24
A printed timetable leaflet or booklet	2	3	5	24
A friend, relative or colleague	9	15	11	20
A timetable on the internet	–	1	3	16
Network Rail website	3	3	5	14

## Prompting changes in travel behaviour

A key objective of the communications campaign was to prompt changes in commuters' travel behaviour during the part-closure – be this reducing overall passenger numbers travelling by train to the Waterloo area, changing the times at which people make their journeys, or encouraging people to use other modes, routes or stations. One reason for beginning the campaign in December was to get people to think about taking time off in August with the traditional Boxing Day kick-off to the summer holiday booking season.

Accordingly, we asked passengers what steps they intended to take during the works. The results showed that the campaign was effective in getting people to think ahead.

A month before the part-closure of London Waterloo, over a quarter of passengers were telling us that they intended to start their journey earlier, but only 12 per cent could be persuaded to travel later. A fifth were planning to use an alternative route, and as many to travel to or from a different station to normal. Around 14 per cent were expecting to use another mode of transport. Most encouragingly, over a third were expecting to work from home or another site on at least some days, and a quarter had annual leave planned for at least some of the period.

Although we asked this same question during the part-closure, the figures are not comparable since those people on holiday or working from home were not captured in the Wave 4 sample (by definition, they were not there to be

surveyed!) One interesting difference with those who were still travelling during the part-closure is that 55 per cent said they were travelling earlier than usual (compared with 28 per cent in the Wave 3 forecast).

Figure 3 **Actions passengers intended to take during the works at London Waterloo**

Wave 3 – May/July 2017 (Base: 664)	%
<b>Change Journey</b>	
Start journey earlier	28
Start journey later	12
Use an alternative route	22
Travel to/from another station	20
<b>Work from home/elsewhere on some days</b>	36
<b>Take annual leave (for at least some of the time)</b>	24
<b>Change Mode</b>	
Use a bus	8
Drive	8
Cycle	4
<b>None of these</b>	7

## Satisfaction with information provision

Ultimately, three-quarters of passengers travelling during the London Waterloo works were satisfied with the information they were given. However, this was not the case in the run-up to the works and was a cause of some concern. Back in 2016, half said they were dissatisfied with the information available and three out of ten were still dissatisfied a month before the part-closure.

We know from previous research that passengers' key priority is knowing their travel options and, in particular, having a detailed timetable. Although the timetable for services into London Waterloo was available online 12 weeks before the works, this was not widely known among passengers, while paper timetables were not available until just a few weeks before the part-closure. And it is worth noting that one in ten passengers were relying on picking up timetables/information at a station rather than seeking the information online.



Timetable rack at London Waterloo



Banner at Clapham Junction

Figure 4 **Satisfaction with information provision for the works at London Waterloo**

	W1 Nov/Dec 2016	W2 Feb/Mar 2017	W3 May/Jul 2017	W4 Aug 2017
<b>Base:</b>	<b>(746)</b>	<b>(781)</b>	<b>(756)</b>	<b>(798)</b>
	%	%	%	%
Very satisfied	3	9	11	35
Fairly satisfied	12	24	18	41
Neither/nor	26	33	26	12
Fairly dissatisfied	21	18	18	7
Very dissatisfied	29	9	11	3
Don't know/no opinion	10	6	6	2

During Wave 3 in the month before the works, one third of passengers were still asking for detailed timetable information. This is further evidence of the importance of fully publicising the timetable by the industry's 12 week deadline ('T-12'), and at the same time as advance purchase tickets are released for sale.

Figure 5 **What passengers still wanted to know about the works at London Waterloo in Wave 3**

Wave 3 – May/July 2017 (Base: 905)	%
New/revised timetable information	32
Effect on my route/journey	15
Compensation/refunds available	6
More precise information/more details	5
Number of trains running/frequency of trains	5
Expected disruption/levels of discomfort	3
Future benefits	9
Already know what I need to know	13



Figure 6 **Journey satisfaction – London Waterloo**

	<b>W1 Nov/Dec 2016</b>	<b>W2 Feb/Mar 2017</b>	<b>W3 May/Jul 2017</b>	<b>W4 Aug 2017</b>
<b>Base:</b>	<b>(746)</b> %	<b>(781)</b> %	<b>(756)</b> %	<b>(798)</b> %
Very satisfied	20	32	31	23
Fairly satisfied	42	42	45	34
Neither/nor	13	12	12	15
Fairly dissatisfied	15	10	7	17
Very dissatisfied	10	4	5	11

Unsurprisingly, journey satisfaction fell during the works at London Waterloo. Nevertheless, 57 per cent of passengers remained very or fairly satisfied with their journeys in Wave 4 – down just 21 percentage points from the previous wave.

Figure 7 **Passenger trust – London Waterloo**

	<b>W1 Nov/Dec 2016</b>	<b>W2 Feb/Mar 2017</b>	<b>W3 May/Jul 2017</b>	<b>W4 Aug 2017</b>
<b>(Trust asked as a seven point scale)</b>	<b>(746)</b> %	<b>(781)</b> %	<b>(756)</b> %	<b>(798)</b> %
Top 2 box – positive	22	31	29	35
Middle 3 box – neutral	63	59	61	54
Bottom 2 box – negative	14	9	8	9
Don't know/no answer	1	1	2	2

We also took the opportunity to track passengers' level of trust in South West Trains (as it then was). The level of trust increased in Wave 4 – potentially an endorsement of the way the works were handled.

## Support for the works at London Waterloo

Even before the majority of communications activities had started, over half of passengers surveyed supported the works at London Waterloo. This remained constant across the next two waves but increased to well over three quarters during the part-closure, with two fifths of passengers declaring strong support.

Opposition was low (five per cent), and tended to relate to the disruption to be endured in the meantime, or to scepticism about the railway and its ability to deliver the promised benefits.

Figure 8 **Support for the works at London Waterloo**

	W1 Nov/Dec 2016	W2 Feb/Mar 2017	W3 May/Jul 2017	W4 Aug 2017
<b>Base:</b>	<b>(746)</b>	<b>(781)</b>	<b>(756)</b>	<b>(798)</b>
	%	%	%	%
Strongly support	24	24	23	39
Tend to support	34	38	38	40
No feelings either way	21	22	25	15
Tend not to support	3	3	4	2
Do not support	2	3	3	1
Don't know/no opinion	16	10	7	2

Figure 9 **Reasons for supporting the works at London Waterloo**

"Trains are becoming increasingly full and uncomfortable. Hopefully there will be more space in the future."

"It was obviously necessary. Better to do it in a 'short, sharp shock' rather than piecemeal."

"We need longer platforms so that more passengers can come in and out of Waterloo."

"Improving the infrastructure makes for a better foundation and so a better travel experience."

"Investing in public transport is very important for London."

"Work needs to be done to cope with the increasing number of passengers."

"Future requirements delivered ahead of need."



"I'm hoping it will ease overcrowding on the trains and prevent delays."

"It's important to invest in your rail infrastructure."

"They are necessary and long overdue. Waterloo is frequently overcrowded, trains are delayed and extremely busy. These upgrades will alleviate the issue."

"Trains are currently overcrowded so something needed to be done."

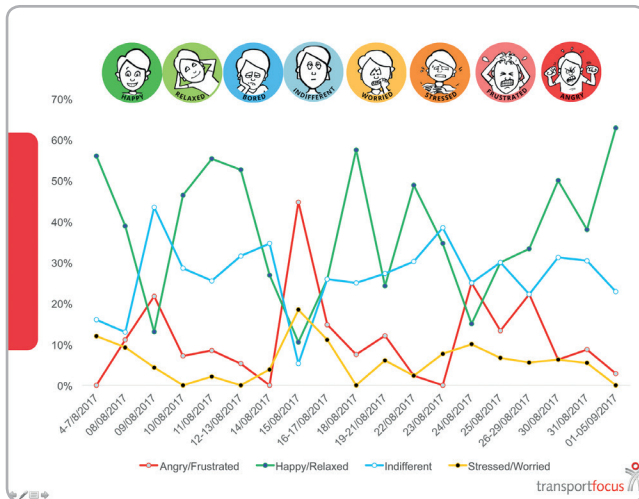
"The infrastructure upgrade work at Waterloo can only be a good thing. Has to be done."

"I support it if it means more punctual and frequent trains."

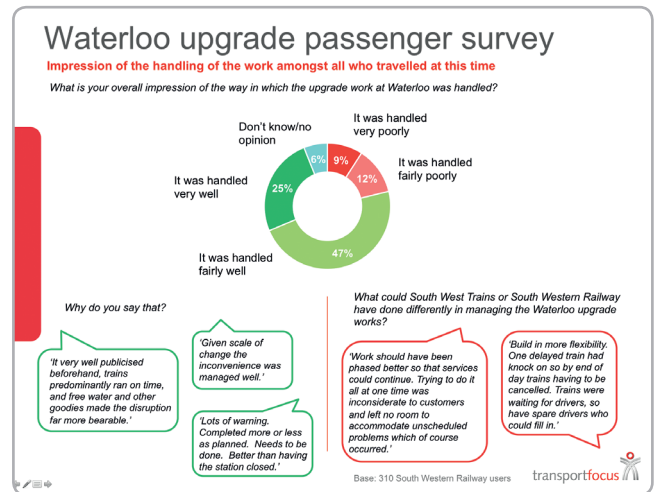
# Summary of our observations and panel research during the works

Transport Focus staff went to London Waterloo and other stations at morning and evening peak hours to monitor the passenger experience.

We were also able to speak to passengers through a number of regular, short surveys using our Transport User Panel. The survey was sent out to the same group of panellists who had indicated they would be travelling through Waterloo station during the upgrade works.



This monitoring enabled us to capture passenger sentiment 'in the moment', and to raise issues with South West Trains, Network Rail and the new operator, South Western Railway, resulting in a number of improvements for passengers.



Slides from our Transport User Panel research<sup>5</sup> showing overall impressions of the upgrade work and capturing the varying mood of passengers

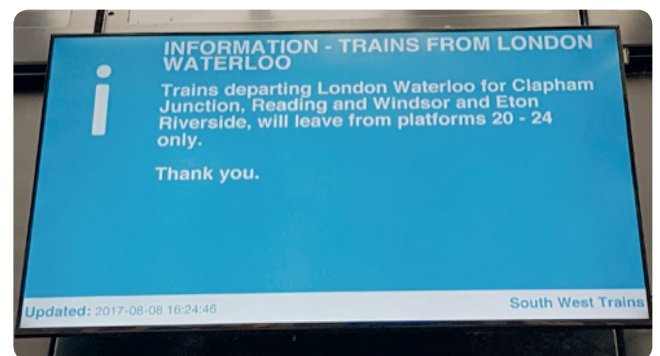


A bus stop at Waterloo station

## Signage

We observed a number of instances where there was a need for clearer signage – for example, there was no information directing passengers to the temporary bus stops at Waterloo Station. In addition, staff had not been adequately briefed. Most staff that we asked for directions couldn't help. South West Trains responded by putting up signs and re-briefing its agency staff and volunteers regarding bus information. Wayfinding maps highlighting the location of bus stops were also issued to staff and passengers.

There were no signs indicating that passengers should wait for Windsor line trains on platforms 20 to 24. As a result, many passengers had to dash across the concourse



Customer Information Screen at London Waterloo

when their platform was announced, causing some to miss their trains. We told Network Rail which responded by putting up clear signs, after which we observed significantly more passengers waiting by the right platform.

## Crowd control

Passengers complained on Twitter about the one-way system at Clapham Junction, so we went to review the crowd control systems in place during the Monday morning peak. Our main observation was that there was no significant crowding anywhere. South West Trains reviewed its arrangements and the one-way system was relaxed during certain periods, so passengers were free to use the subway or the footbridge to change platforms.

At Waterloo station we observed that passengers were annoyed at not being allowed to turn right out of Waterloo East at the mezzanine level, with the stairs closed for downward access. This meant that they had to walk a lot further in order to descend to the concourse. With the reduced number of passengers using the station, this appeared to be an unnecessary constraint. South West Trains responded by removing the one-way system during the morning peak, and agreeing to review it for the evening peak.



*Queuing system on Clapham Junction overbridge (on a Sunday)*

## Communication

There were occasions during the upgrade works when the long-standing message to the industry of 'tell it how it is' was forgotten, causing anger and frustration among passengers.

A train derailed at London Waterloo in the early hours of the morning on 15 August. The initial use of the term 'operational incident' did not give passengers sufficient information to make informed decisions about their morning commute, and it was two-and-a-half hours before the industry used the term 'derailment'. This risked undermining trust: the railway was not being open and honest. The derailment meant that the further-reduced service planned

for the bank holiday Friday had to be implemented a day early. South Western Railway reacted quickly to this change, alerting passengers with a high-level message, clear signage and announcements at stations and on trains throughout the network.

There was a strong message issued by Network Rail over the course of the bank holiday that the works were progressing well and would be completed in time for the morning rush hour on Tuesday 29 August. Unfortunately, this expectation was not met as a number of issues caused delays for part of the morning peak and impacted services for most of the day.

We welcomed the decision by South West Trains to give two weeks of free travel to annual season ticket holders as compensation for the inconvenience during the upgrade works. However, when we tested this offer through our Transport User Panel, results suggested low awareness and poor understanding of how to claim it. These findings were supported by our monitoring of Twitter, which showed many passengers were confused about the process. We asked South Western Railway to make information about the compensation process clearer and simpler.



*The massive electronic advertising hoarding at London Waterloo taken over for a customer information message*

# Conclusions and recommendations

*Rail passengers' experiences and priorities during engineering works* (October 2017), showed that passengers can find it difficult to differentiate between planned engineering work and unplanned disruption.

**The disruption caused to their journeys is felt to be much the same, whatever the cause. There is no 'good' time to undertake engineering work – for passengers, it is a question of finding the 'least bad' time and explaining why this has been chosen. It is also important that the disruption to passengers' journeys is acknowledged and the tone of any communication recognises this.**

In that report<sup>6</sup>, we make a number of recommendations to the industry on the management of disruption caused by planned engineering works. In summary, we recommend that:

- the industry should aim to use replacement buses as a last resort
- where possible, and without prejudicing the needs of disabled passengers, coaches should be used in place of buses
- journey planners should provide adequate information about the use of replacement buses/coaches where these are unavoidable
- timetable information must be available when advance bookings open 12 weeks in advance of a journey
- there must be adequate customer service provision at interchange stations and bus boarding points
- more should be done to explain the reasons for disruptive works and the benefits that will ensue.

Our work at Reading and Bath Spa prompted us to make a number of recommendations regarding the planning and communications associated with major infrastructure projects. See our report, *Planned rail engineering work – the passenger perspective*<sup>7</sup> (December 2015) for detailed recommendations. In summary, we recommended that the industry:

- considers how the work will affect individual passengers' journeys – who does it affect and how?
- tells passengers what they need to know, when they need to know it
- has a tailored communications plan that delivers messages appropriate to different passenger groups with the right amount of detail at the right time
- acknowledges the disruption to passengers' journeys and adopts an appropriate tone of voice
- bears in mind there is a hierarchy to passengers' information requirements; in order, they need to know that:
  - there will be disruption...
  - ...at this station/on this route...
  - ...on these dates;
  - this will be the impact on your journey, and...
  - ...these are the alternative arrangements;
  - this is what the work involves, and...
  - ...this will be the ultimate benefit for you

- plans work, alternative arrangements and communications according to the local circumstances
- uses a full range of channels to get the message out.

## Context matters

The Waterloo and South West Upgrade has shown the benefits of following these recommendations. In particular, it has demonstrated the need to look carefully at the context of each project to take account of different passenger types, their needs, and the alternatives available to them during the disruption. It also showed the need to react quickly to unplanned events during the work, and to communicate their impact on passengers' travel arrangements, as well as anything that may affect the timely completion of the work.

## Enforcing 'T-12'

The London Waterloo project has again shown the importance of providing timetable information in advance (train frequency was available online well in advance) with timetables (if at all possible, paper as well as online) available at least 12 weeks before the start of the works (last-minute issues frustrated South West Trains in achieving this).

## Compensation

From our research, we know that passengers feel they deserve compensation for disruption caused by planned engineering work – particularly when they receive an inferior service, such as having to use a replacement bus in place of the train they have paid for. The issue of compensation was raised spontaneously by one in 12 passengers in our London Waterloo research. We believe compensation should have been provided where stations were completely closed as a result of the works, and where season ticket holders might choose not to use their normal route/ticket.

Although we would have liked compensation announced in advance of the works, we were pleased to see South West Trains declare 10 'void days' by way of compensation to season ticket holders following the derailment, which further disrupted services over two days during the part-closure.

## Awareness

With Reading, Bath Spa and London Waterloo, we have seen the benefit of using passenger research to track awareness of the works/disruption, to test communications materials, to monitor communications/channel effectiveness and to pick up on any unmet information needs.

We recommend that, in planning a major project, consideration is given to making budget available for passenger research. And, having Transport Focus staff 'on the ground' was invaluable in feeding back what passengers are actually experiencing during the disruption and getting some immediate 'quick wins', such as additional signage, adjustments to walking routes/waiting areas, better announcements and/or customer information displays.



### **Postscript**

While nobody wanted to see long queues at stations during the part-closure, there was one queue that it seems passengers were only too happy to join – that for the free ice creams (and bottled water) that were on offer at London Waterloo!

## Contact Transport Focus

Any enquiries about this research should be addressed to:

Catherine Folca

Stakeholder Manager

**e** [catherine.folca@transportfocus.org.uk](mailto:catherine.folca@transportfocus.org.uk)

**w** [www.transportfocus.org.uk](http://www.transportfocus.org.uk)

Fleetbank House  
2-6 Salisbury Square  
London  
EC4Y 8JX

Transport Focus is the operating name of the Passengers' Council

**Transport Focus is the independent consumer organisation representing the interests of:**

- all users of England's motorways and major 'A' roads (the Strategic Road Network)
- rail passengers in Great Britain
- bus, coach and tram users across England outside London.

**We work to make a difference for all transport users**