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Station Information Screens
Research Debrief
Prepared for Transport Focus

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Background and Research Objectives

The Smarter Information Programme aims to enhance passenger information on rail

Since 2014, significant improvements in passenger information screens have emerged

- 2016: Thameslink stations receive 'at-a-glance' information screens
- 2019: 157 stations in the South East benefit from enhanced information screens and PAs
- 2020: Waterloo Station trials LED, full-colour and high-definition screens

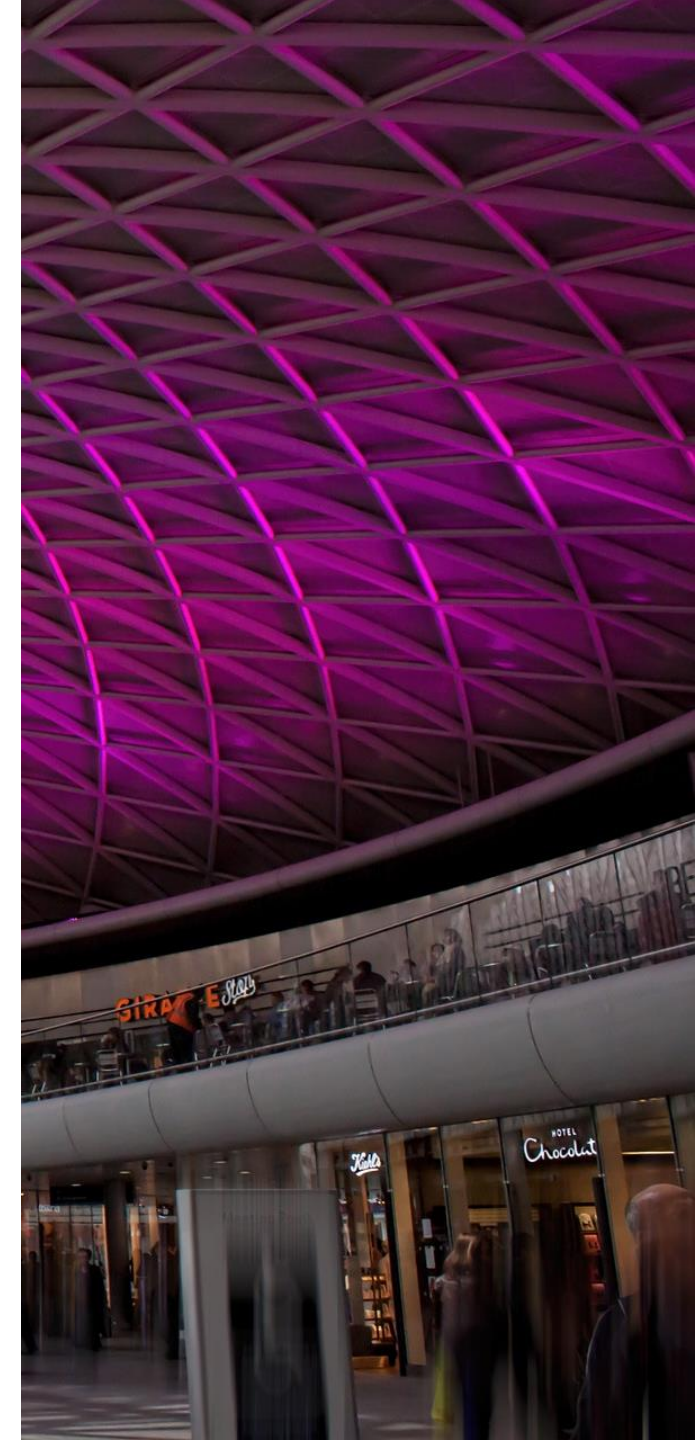
Research was needed to establish the direction of travel for enhancements to information screens in the future. Specific objectives included:

User Experience Objectives

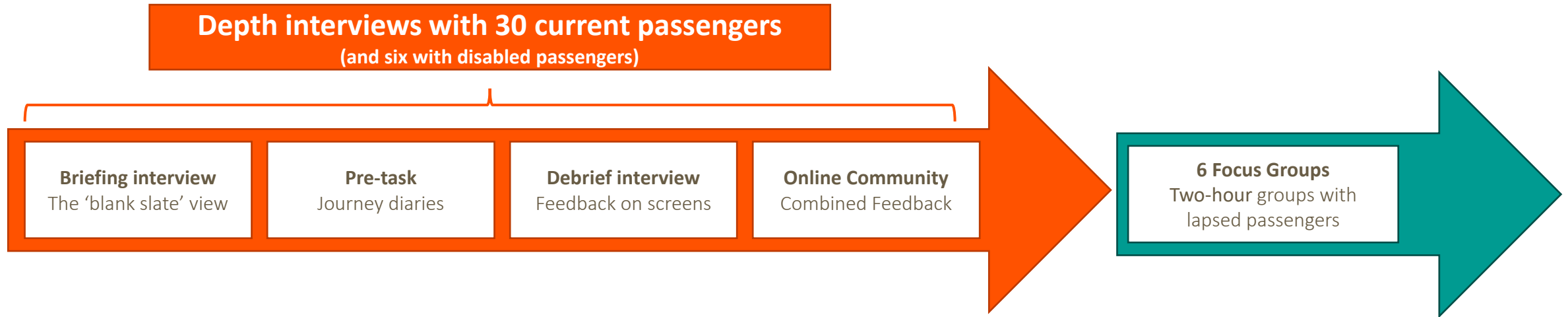
- Since 2014, what has changed about how passengers experience information screens?
- What frustrations have passengers had with station information
- What specific requirements exist among passengers with disabilities?
- How do requirements differ by peak and off-peak times, or by disruption versus normal service?
- Do passengers expect consistency in terms of the provision of screens nationally?
- How do station information screens fit into the wider environment of station information, including PA systems or static signage?

Technological Objectives

- (Once explained) what preferences do passengers have for the different technologies available for information screens?
- Dot matrix versus plasma screens
- Use of colour (particularly in the context of those with visual impairments)
- How should investment in these technologies be prioritised?



Research Approach



Fieldwork was conducted between February and April 2021, and comprised:

Station	Depth interviews	Focus groups
London Victoria	6	1
London Waterloo	6	1
Orpington	6	1
Manchester Piccadilly	6	1
Leeds Central	6	1
Newcastle Central	0	1
Birmingham New St	6	0

Additional Criteria (Depth Interviews)

- All respondents to be currently travelling by rail.
- Spread of frequent and infrequent travellers
- Minimum 3 respondents not to have English as a first language.
- Younger respondents: 18-40 years old
- Older respondents: 41+ years old
- Spread of disabilities (disabled respondents do not have to be currently travelling)
- Spread of age, gender, ethnicity.

Additional Criteria (Focus Groups)

- All respondents to have travelled by rail pre-COVID.
- Spread of frequency:
- Minimum 5 respondents not to have English as a first language.
- Younger respondents: 18-40 years old
- Older respondents: 41+ years old



Executive Summary

Executive Summary



Passengers are generally satisfied with the provision of information at their stations

- For most passengers, this is not a high-salience issue. It took time for passengers to be able to think critically about these screens and find areas for improvement. For many, familiarity is the key strength of the existing screens. The ‘conventional’ dot matrix screens stand out, while more innovative screens can fade into the background.



While mobile devices have become ubiquitous in terms of journey-planning, station screens remain vital for in-the-moment information

- Many passengers wonder why totems include journey planning information. The concept of arriving at the station *without* that plan already firmly in place feels implausible, and its perceived value is limited to only the most severe delays, or the most inexperienced of passengers.



Disabled passengers have unique needs in terms of the placement of signage, and less so around content

- Station staff take on a much greater importance here. For many, the key issue is around the underlying information and the level of service provided. As one respondent put it, it doesn’t matter how informative the screens are if they are waiting half an hour for a wheelchair ramp.



Passengers are conservative around investing in screen enhancements – improvements are seen as ‘nice-to-have’

- Especially when judged in tandem with other potential areas for the railway to invest in (station facilities, improvements to track), screens can feel less important. Improvements do, to some extent, need to be ‘sold’ to the end passenger.



The ‘job’ of information screens is to update, inform, and reassure

- The main concourse boards tell passengers where to go, and repeater boards reinforce the message. Passengers, especially less experienced ones, do not always trust themselves to navigate from concourse to train without consistent reminders and reassurance.



Disruption completely alters passengers’ information needs and screens should account for this

- Passengers expect all information sources to be ‘dialled up’ and working in tandem with each other. They need advice on what to do as a result of the disruption, and will consider whether to continue with, or abandon their journey based on station information.



Passengers value the distinction between Operational Information Screens and Customer Information Screens

- CIS are held as somewhat sacrosanct. Passengers do not want them to be ‘interfered with’, through the addition of operational information, particularly if the operational information shown is second-tier information like wet weather warnings or reminders not to leave baggage unattended.

Station information screens broadly meet passenger needs



Often, the frustrations with station information stem from the underlying information, rather than how it is presented

- Passengers generally trust that screens will present the information ‘as is’, recognising that the situation may change as ‘station managers’ become informed of developments. Passengers do assume that screens are updated manually, although they do not know by whom.
- Passengers are divided about whether they would want to know about *potential* delays further in advance. Those with fewer alternative options see this as unhelpful, and an added source of stress, but those with feasible alternatives easily within reach could comfortably use this information to plan against disruption.



Orange-on-black screens are acceptable, but passengers can see that improvements could be made

- Passengers have trained themselves to look out for this colour, and as such these boards stand out the most. There are no significant failures of understanding or comprehension. Passengers can access the information they need at a glance.
- For many, white-on-black would be preferable. However, they argue that screens would be less recognisable as a result. Colour display boards were seen as a potential (and valuable) compromise: the use of additional colour to help them stand out, combined with the more intuitive legibility of a white-on-black screen.



The placement of information screens is almost always seen as acceptable

- Those using larger stations can sometimes feel ‘overloaded’ with information. Clear separation, for instance, of departure boards and next fastest train boards, with the difference between the two clearly signposted, would add value.



Operational Information Screens are not consciously valued but passengers recognise that the information itself is necessary

- Passengers often claim not to notice them; or fail to recognise them as a distinct source of information in their own right. The passengers we spoke to like the idea of having a separate source of “extra” information, if they can be shown it clearly.



Information Context

Journey planning is ubiquitous, even for routine journeys

This process usually begins shortly before departure, and almost always involves a smartphone

Trainline appeared to be the most common journey planning tool, recognised as relatively up-to-date and quick to provide any information that may have an impact on the journey. It is trusted to keep the user informed, even as they embark on the journey itself. However, a whole range of different apps emerged, and **the choice is often a function of habit rather than evaluation.**

Instant-access tools dominate the landscape in terms of journey planning – few if any passengers used tools like the news or radio, although for some TOCs, Twitter can serve as an effective way of monitoring the service, actively checking or passively absorbing the information. There is an expectation that, at a minimum, these different sources of information will not contradict each other, but passengers do assume that screens will update their information before their phone sources.

I don't use Twitter much but I've learned that for some trains it's absolutely spot-on, as long as you've got a good train company it's a really good tool.

Manchester Piccadilly, Older, Leisure/Business

I've got two train stations near me so I'll check in advance to see which station can get me there quicker. But I've checked Google before only to be told there's no train.

Leeds, Younger, Commuter

When I go to the station I want to know the platform, the time, and where to get a coffee and that's it. I'm not looking for advertisements or whether there's a delay in some other part of the country.

Newcastle, Older, Leisure/Business

As soon as I get to the station the screen is what I look for first; it's not like the Underground where you know your platform in advance, so you have to check.

Orpington, Older, Commuter

Users thought about journey planning in four different ways

The ideal journey planning tool needs to cater for all of these



Journey Strategy:

- Should I even travel at all?
- What mode should I use?
- What's the best way to do this journey?

Journey strategy emerged as the pre-planning of a journey, sometimes weeks in advance for infrequent or longer journeys, but often the night before, or the morning of travel for more frequently-made trips. Information needs to answer **broad questions** around the feasibility and execution of the journey, and what potential pitfalls to expect.



Journey Optimising:

- Could I do this journey quicker?
- How reliable is my current route?
- Could I save money on this journey?

Transport users may wish to optimise an existing, **routine and familiar journey**. As with journey strategy, this can be done somewhat **hypothetically**, motivated by the urge to save money and time.



Journey Information

- *Hypothetically*, how would I plan this journey?
- What's the extent of the transport network?

This form of journey planning is more **abstract**. Infrequent and longer journey-takers may wish to understand '**the lie of the land**' in a new area, understand what viable journeys are available to them and obtain a general sense of the reliability of the transport network.

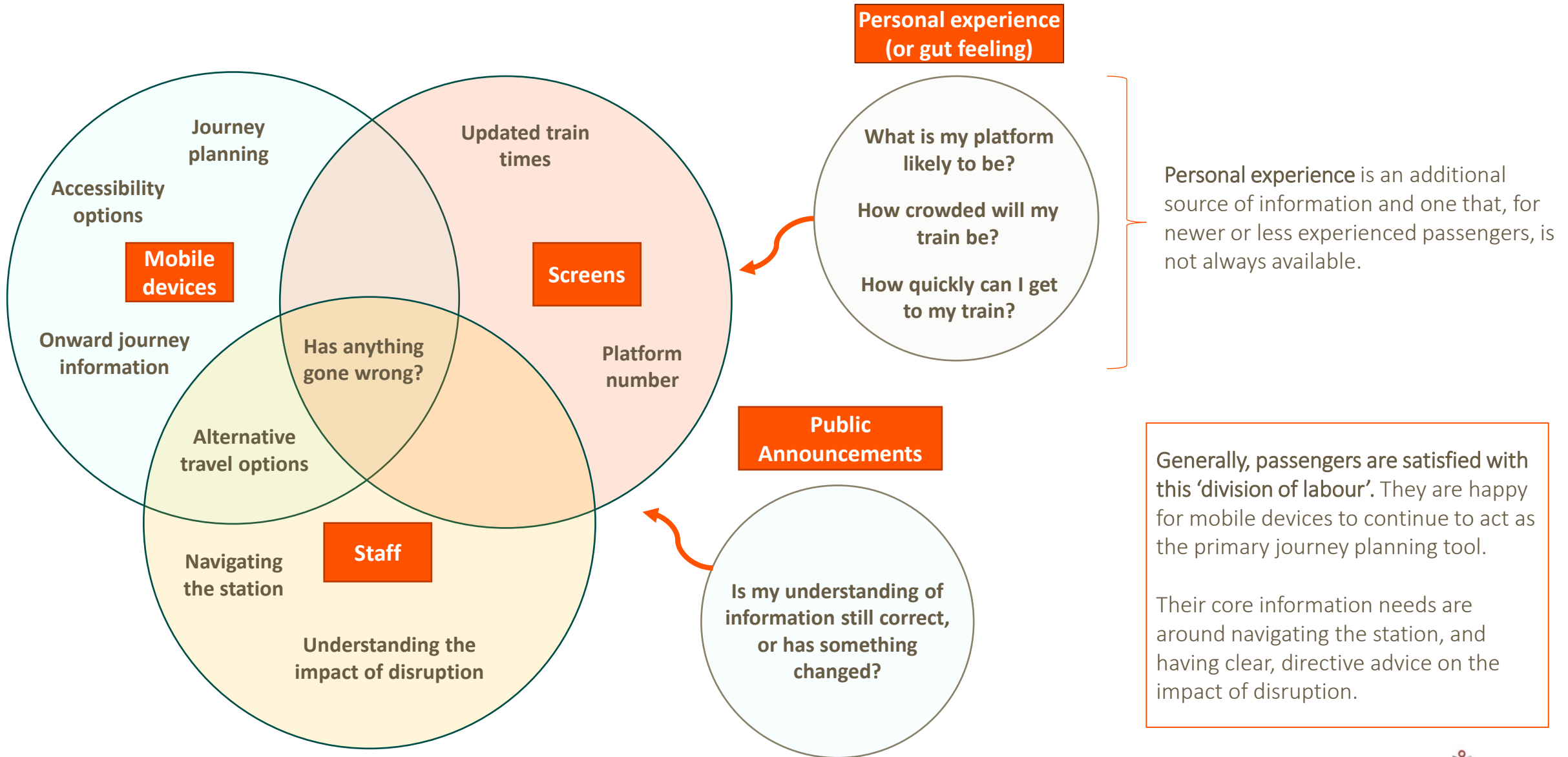


Journey Checking

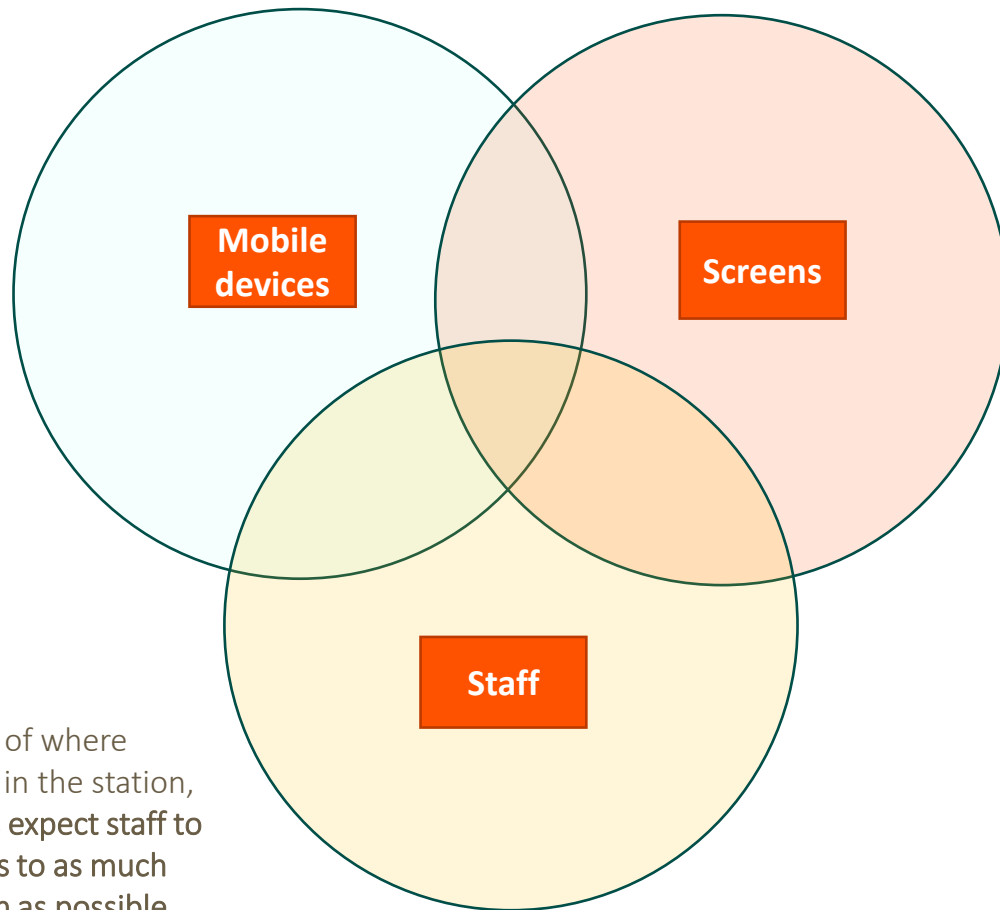
- Has anything gone wrong?

Immediate, timely, concise information is called for here. Information needs to be in the form of alerts for it to be of any use at all. Alerts about train cancellations and delays are all vital to the successful execution of a journey, particularly during COVID when an excessively crowded train also brings the risk of having to change plans.

How do different sources of information interact with each other?



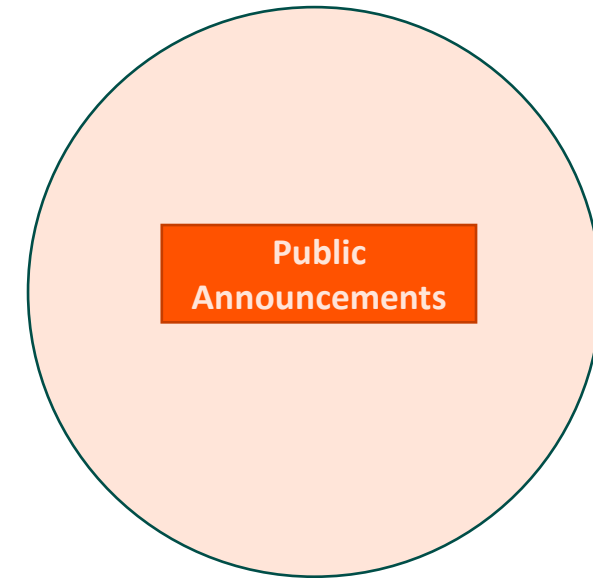
How do different sources of information interact with each other?



Regardless of where positioned in the station, passengers expect staff to have access to as much information as possible.

The key perceived benefit of staff is that they can provide tailored information that screens cannot. Passengers expect staff to be empowered with in-depth detail about the service. management

For less experienced passengers, or leisure and business travellers making complex journeys, staff are a source of reassurance



Public Announcements can fade into the background and go unheard. PAs are often a last-resort; something to listen out for if the appropriate information cannot be found on a screen or elsewhere.

Passengers are often not in a position to listen to the announcements due to headphone usage

But PA systems are valued for confirming or contradicting passengers' existing knowledge.

During disruption, the use of a human voice adds a degree of urgency and feels up-to-date.

Apologies delivered 'live' via the PA feel more genuine and sincere, and while it is not listened out for during the disruption itself, it may cumulatively reflect better on the service in the long term.

Experienced passengers have distinct needs compared to less familiar users

Frequent users do not want to be 'bothered' by information they do not see as relevant. They can be frustrated by having to sift through journey information that they either knew in advance or did not want in the first place. Less experienced users, however, seek **reassurance**. The more information, and the more frequently shown, the better. Frequent users are likely to filter any extraneous information out, but do sometimes feel overwhelmed by information they do not need.

For less experienced passengers, the stakes are higher: they risk making a fundamental error like getting on the wrong train altogether, whereas more experienced passengers may simply board a stopping train rather than a faster train.



Regardless of where staff are positioned in the station, passengers expect them to have access to as much information as possible

The key perceived benefit of staff is that they can provide tailored information that screens cannot

As a result, passengers expect staff to be empowered with in-depth detail about the service. Some have noted that staff simply check National Rail Enquiries in response to a question and the expectation is that they ought to have access to information that is in some way ‘different.’

Some wonder why staff do not always have headsets or some ‘link’ to the station management to ensure that the information they receive is as up-to-date as possible.

Unlike with screens, passengers would welcome early information about *potential* delays from staff. Staff can provide directive information and advice tailored to individual circumstances, providing the crucial ‘so-what’ that passengers expect from information of this kind.

For less experienced passengers, or leisure and business travellers making complex journeys, staff are a source of reassurance

These passengers do not always require expertise; often, their needs are more straightforward. They are looking for a sense-check, or a personal affirmation that they are going the right way or boarding the right train. They value courtesy and clarity from staff in this respect, and, with limited exceptions, they are satisfied with how staff provide these.

*I always find a problem when I'm switching trains and I have a short time to get to the next one. Unless there's a guard there, I'm quite **anxious** because I might have to take a case over a bridge quickly or something.*

Manchester Piccadilly, Older,
Leisure/Business

*I honestly feel sorry for the staff; they get a lot of stick and you think that they haven't been communicated with – **they've been made aware of things at the same time that we've been made aware** and that inability to convey information to the customer is what causes aggravation.*

Newcastle, Older,
Leisure/Business

Public Announcements can fade into the background and go unheard

PA announcements are often understood as ‘general information’ rather than anything personally relevant

Often, the PA system is used as a last-resort; something to listen out for if the appropriate information cannot be found on a screen or elsewhere. A common assumption was that if the information is crucial, it would be on the screen.

Passengers are often not in a position to listen to the announcements due to headphone usage

As a result, announcements can catch passengers unawares. They may miss the first few seconds of the announcement, or fail to hear it altogether.

That said, PA systems are valued for confirming or contradicting passengers’ existing knowledge

During disruption, the use of a human voice adds a degree of urgency and feels up-to-date. They are, therefore, listened out for in a vague sense – perhaps for certain key words like “cancelled” or “delayed” – but in general terms, PA systems could do more to announce their intention before launching into the announcement itself.

PA systems are the preferred source of apologies for delay. Automated apologies for minor delays are acceptable; they are seen as part of the routine, and in any case minor delays are tolerable.

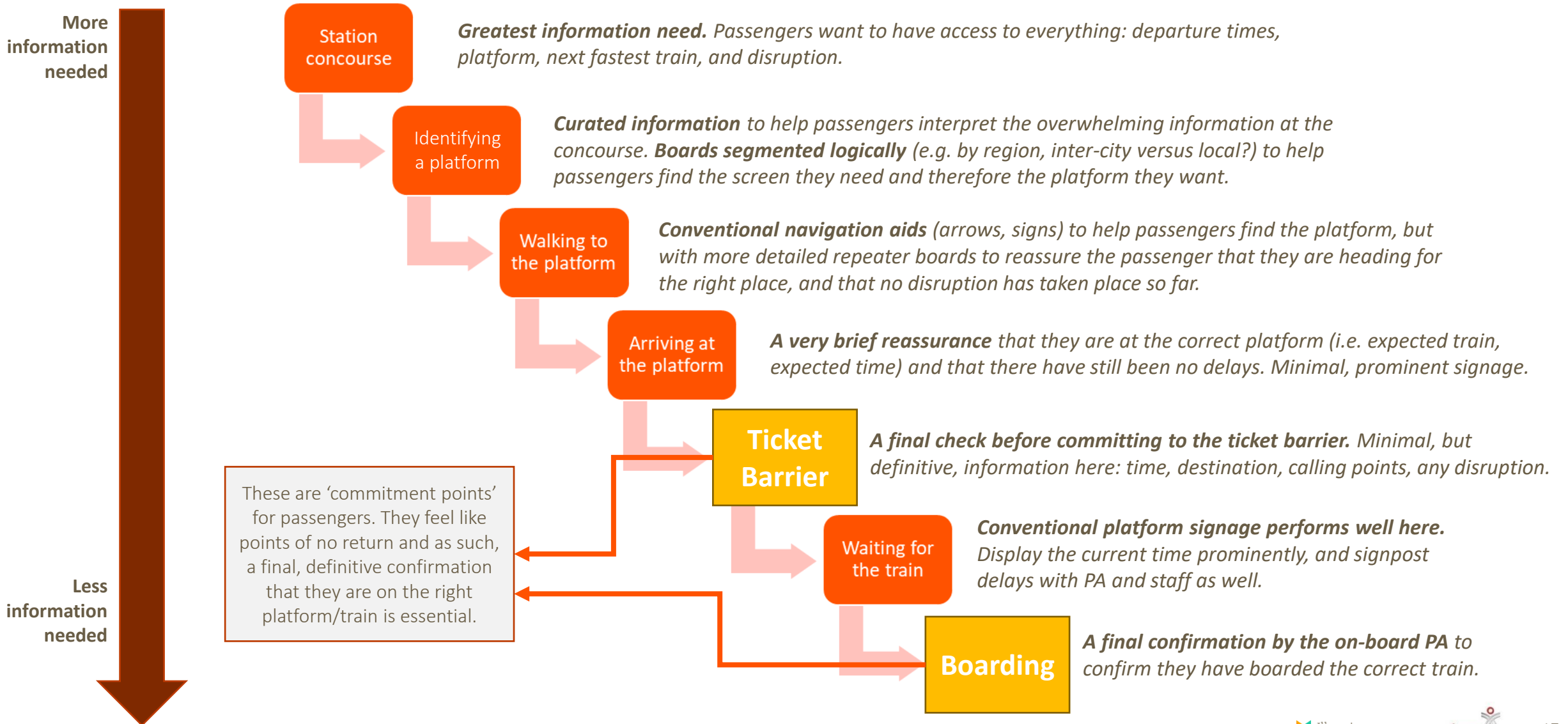
During significant delays, however, the apology is very low down on the list of things passengers want to obtain from station information sources. They are looking for an indication of what to do next, from a member of staff, rather than an apology from them.

On reflection, however, a live apology feels more genuine and sincere, and while it is not listened out for during the disruption itself, it may cumulatively reflect better on the service in the long term.



Customer Information Screens

Passengers' information needs differ on the journey from concourse to train



Passengers almost universally move straight for the main board of screens

While sometimes difficult to interpret, the main board in large stations is reassuring

Passengers do value knowing exactly where to go to find the information they need, even if they have to go through the effort of pinpointing their information within the set of main boards.

However, breaking up the “big orange wall” of station screens in a way that passengers can understand and use is desirable

Those making often routine commuter journeys tend to need information quickly, and be able to make **snap decisions** about their travel based off station screens.

They highlight that while all information in the station is valuable, it needs to be separated and signposted in a more intuitive way. Passengers would benefit from a more explicit ‘**zoning**’ of screens, either by type of screen (departure, next-fastest train), or by type of journey (e.g. short-distance, long-distance).

The first screen is not very well located. You can't stop and look up at it because you have to keep walking, as it's a one way system, so it's not very helpful. There is quite a distance before the next screen which is dot matrix, so having a screen which people can see nearer the entrance would be helpful. Also a screen nearer the [entrance to the] platform would be more helpful.

London Waterloo,
Commuter, Older

Upon arriving at the station I was faced with the “wall of orange”. I was a little early so some of the departure platforms weren't shown on the boards and it took me a few moments to locate my train. Partly because everything looked the same and partly because as I began looking, the list of trains all shifted position!

London Victoria,
Commuter, Younger



Other screens are rarely the primary source of information but they play an important role

The primary role for repeater boards is around reassurance – that nothing has changed since consulting the main board

As a result, passengers accept that information on repeater boards is more streamlined than on main boards.

Repeater boards placed at the entrance to the station can feel unhelpful:

Passengers generally want to know as much as possible, as soon as possible, and then let the information distil and become more specific as they progress through to the train.

Occasionally, passengers may consult repeater boards for a fuller view of the information

During periods of congestion at the station, passengers may resort to using repeater boards as their primary information source, particularly during COVID where staying away from crowds is a priority.

For repeater boards, portrait is often preferred to landscape orientation

Portrait orientation feels more “list-like” and helps passengers intuitively locate their train.

‘Next Fastest Train’ boards were helpful for those ‘in the know’

Those using high-frequency commuter routes valued these screens

But leisure users, or those using lower-frequency routes, do not see a pressing need for these screens

Platforms can feel sparse in terms of screens, but do provide the necessary information

Platforms are the final ‘commitment point’ for a passenger. At this point, there is a strong uplift in the importance of information. Some passengers, particularly those in rural areas, were frustrated by the lack of signage on the platform itself.



Passengers with disabilities identified a range of 'quality of life' improvements

Ensuring that wheelchair users can read signs from a seated position

- In some stations, wheelchair users may have to move around the concourse or platform to find the correct viewing angle from which to read the screen because of the difference in their (effective) height.

Providing enough time for mobility-impaired passengers to get to the platform

- Able-bodied passengers highlighted the 'mad dash' from concourse to platform as well, but for disabled users this is a serious worry. They fear that they will simply not be able to reach the train in the sometimes brief window between the platform being announced and the train departing.

Placing platform signage as close to the ticket barrier as possible

- Mobility and sight-impaired passengers do not want to move far down the platform to access the information they need at the platform. This has the added benefit of ensuring they can see the screen before 'committing' to going through the barrier.

Providing information about accessibility facilities on the train – specifically:

- Where is the wheelchair section located?
- How crowded is the train likely to be?
- Can I get a seat?

I need to know how far away the platform is from the station entrance. Specifically when I travel to London you only get six minutes from when they announce the platform to when the trains leave and that can be quite short. I've nearly missed a few trains from that.

Leeds, Commuter, Younger
(Mobility Disability)

Passenger disability case studies

Commuter, Younger, Leeds (Visual Disability)

This passenger has extensive experience of travelling in Korea and valued the way in which information is colour-coded in that country. Trains delayed by more than five minutes are listed in red, and this intuitive system makes it easier for her to read.

She finds that orange and black dot matrix screens can be blurry and hard for her to interpret. Accelerating the roll-out of LED screens would be a significant benefit to her.

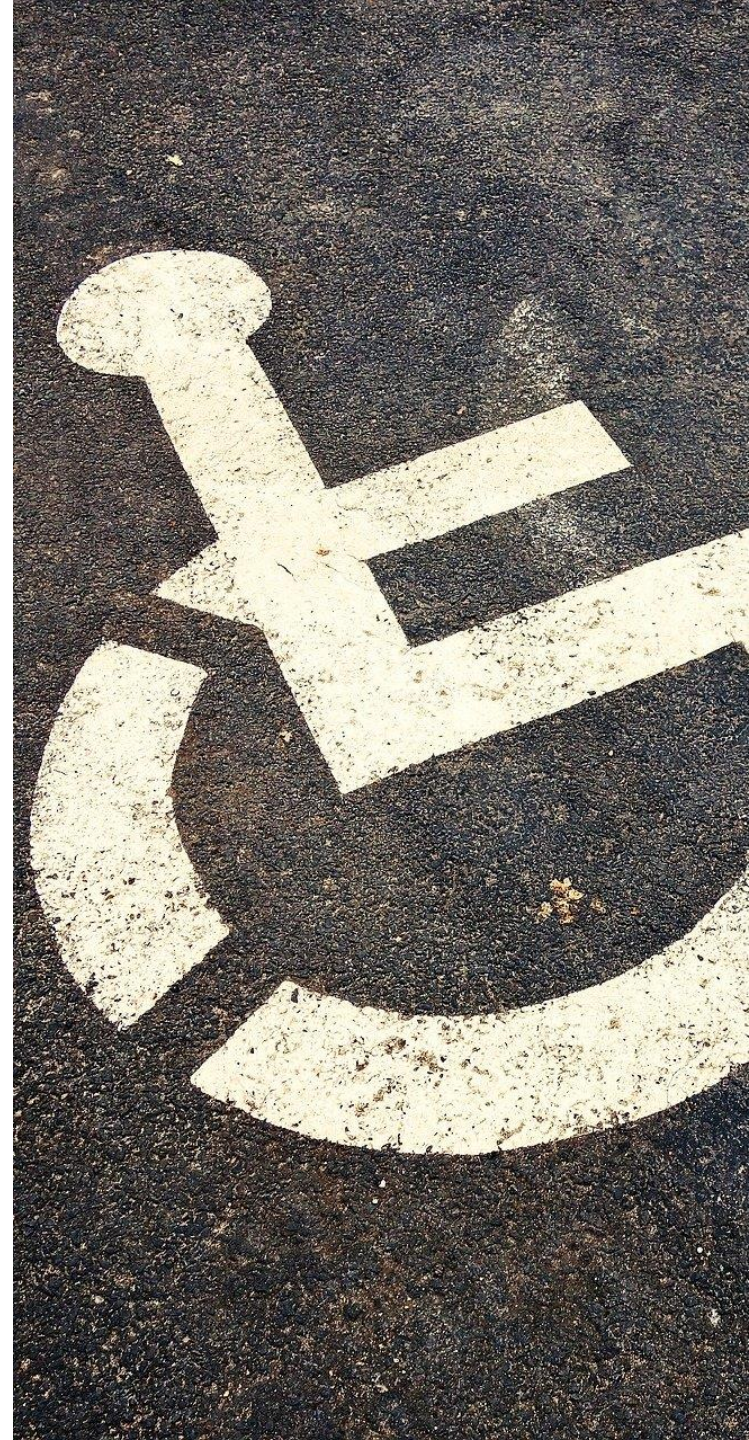
As a passenger with a disability she values reassurance that her understanding of the information is correct. Repeater screens play a major role in her journey, to re-confirm that she is still approaching the right platform and ultimately the right train.

Commuter, Younger, Leeds (Physical Disability)

This passenger has cerebral palsy, and often requires a seat when travelling. He knows from previous experience how likely he is to get one, but would value more of an indication of how busy his train is at the station itself.

On longer-distance journeys, he may book a ticket in advance, but often has no way of knowing how close his carriage is to the ticket barrier. In an ideal world, he would like to minimise the walking distance between the barrier and the train.

However, his priorities lie beyond information screens. He has been frustrated by having to wait for assistance to get off the train in the past and would want to see this improved before any enhancements to screens.



Passengers feel that orange dot matrix screens are less clear than white-on-black screens



Most would welcome a general (if gradual) rollout of white-text LCD screens to replace orange ones

However, passengers argue that orange dot-matrix screens are more instantly recognisable and familiar.

Passengers know to look out for these boards, and can interpret the information easily.

The key strength of white-on-black is that passengers feel comfortable reading these from a distance or at an angle. This is particularly relevant on the platform, where passengers may not be willing (or able) to move closer to the screen.



Maintaining the distinctions between different types of CIS will be essential

The only weakness passengers could identify in black-and-white CIS was that departure boards and 'next fastest train' boards looked very similar and monochrome, particularly when placed side-by-side. Taking advantage of larger headings, physical separation of screens, additional colours, or differences in formatting, could alleviate this.



There is a perceived difference between the legibility of words and the legibility of the screen as a whole

While most passengers argue that, all else equal, white-on-black is easier to read, these benefits are negated when screens of different purposes are crowded together, or each screen simply contains too much content.



Orange is quite dull; it doesn't pop, doesn't stand out at all. It's dated. I'm used to receiving information in all these different colours and fonts and then you come to the station and it's like the difference between a 4K and an old analogue TV.

Leeds, Younger, Commuter

I find it crazy that they did all of Leeds stations up, all that stuff around the exits, and they didn't do the basic things like changing the boards. They've put in all these funky chairs or whatever and I just think they could have put more effort inside the actual station, on the screens.

Leeds, Younger, Commuter

'Next Fastest Train' boards were helpful for those 'in the know'

Those using high-frequency commuter routes valued these screens

Some query how the 'next fastest train' is defined, and leaves many wanting additional detail:

- Would this involve an interchange?
- Is it a direct train or a stopping one?
- Is it more expensive?
- Is my ticket eligible for the train?

Leisure users, or those using lower-frequency routes, do not see a pressing need for these screens

Next Fastest Train boards were understood as valuable for people who arrive at the station without a specific plan, and can 'turn up and go'. All other users, however, are much more likely to plan ahead and know well in advance what train they need.

I think this works if you haven't got a ticket booked, like an open return, and you want to find your destination home and get on the next fastest train, but more often than not I've got a ticket booked for a train, so this is kind of irrelevant.

Newcastle, Older,
Leisure/Business

I normally know that I'm looking for Birmingham but that Coventry is the final stop, so that helps. But especially if I'm going somewhere new I'll do that research beforehand so I know; so that I can use that information quickly.

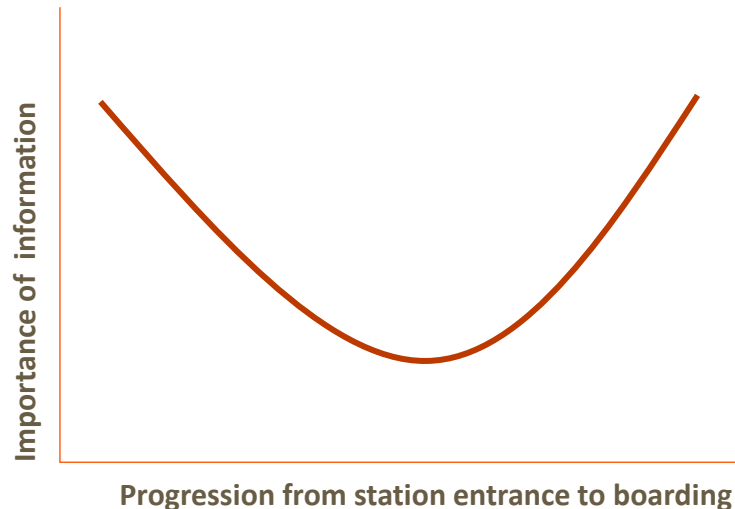
Orpington, Older, Commuter



Platforms can feel sparse in terms of screens, but do provide the necessary information

Platforms are the final 'commitment point' for a passenger, where they must definitively board a train. At this point of no return, there is a strong uplift in the *importance* of information. Some passengers, particularly those in rural areas, were frustrated by the lack of signage on the platform itself.

Passengers pointed out that having to walk from one end of the platform to the other is a frustration (and for disabled passengers, sometimes unfeasible). That said, the *level* of information generally meets users' needs. The key information is present, but sometimes spread out in such a way that can leave passengers deprived of the instant reassurance they need.



So this morning I thought I'd show you how my local station is actually quite lacking in information. As you can see, I'd have to walk up the line or across to another platform to get to a sign.

Orpington, Commuter,
Younger





Operational Information Screens

Operational Information Screens are rarely noticed, but hold value on reflection

Spontaneous awareness

On first principles, passengers simply do not recognise these screens as a category of information unto themselves.

They lack a defined role, and while passengers may exaggerate the extent to which they ignore them, they are certainly **not actively consulted** or recognised as unique.

They fade into the background amid the range of advertising screens, and can often be **mistaken as advertising**. The public awareness messaging can feel unnecessary, self-evident or common-sense, and hinders the perceived usefulness of OIS as a whole.

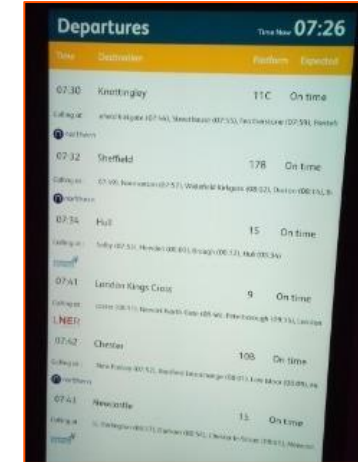


Considered understanding

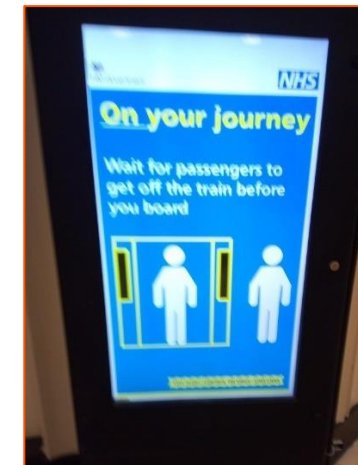
On reflection, passengers see value in having a screen that provides up-to-date, ancillary information. The screens are seen as more “live” than paper-based information.

However, even when informed about what OIS are, and what they look like, passengers can struggle to pick them out, as shown opposite.

Passengers do value the idea of a unique and separate source of operational information, as they are **accustomed to CIS being journey specific, rather than service-level information**. They would not want to see them removed, or integrated into CIS, but expect these screens to win their attention in a way they currently do not.



I think I saw one... Is it this screen? I don't really know which one you mean.



Or was it this one? I'm not sure...

Leeds, Commuter, Younger

Passengers did not expect a significant 'rethink' of OIS – the format is appropriate, the execution sometimes is not

On first principles, passengers simply do not recognise OIS as a category of information unto themselves, but on reflection, passengers see value in having a screen that provides up-to-date, ancillary information.

When asked to consider the alternatives, passengers saw significant benefits to OIS as they currently stand:

Switching to paper-based operational information?

- Fears emerge around how 'current' the information would be, although many argue that they would notice a paper board more than the current OIS they have in their stations.

Placing operational information on CIS screens?

- Undesirable. Customer information screens are held as somewhat sacrosanct in terms of their role. Including anything other than *very* succinct operational information here would be seen as interfering with the key information of expected times, platforms and delays.

Using totems as a primary source of operational information?

- Likely to make the information more noticeable, but passengers would worry about other travellers crowding the screens to interact with them, or the operational information being 'pushed out' by less valuable information.

Passengers value physical interruption: information sources that actively get in their way

The passengers we spoke to recognised that they cannot always know what information they need to be informed of. They actively called for a disruptive, bold approach to literally put information in front of them. Using design and placement to its advantage will be a significant priority for OIS going forward.

It's just putting it in the right place, whether it's on paper or a screen, but it has to be somewhere visible. If it's important, it has to be seen anywhere you go.

Leeds, Younger, Commuter

*I think you need the screens as well as the paper [A-boards] because someone could just stand in front of the paper ones. **They don't feel up-to-date, they're not live;** someone had to create and print that poster...*

Orpington, Younger, Commuter

The key challenge for operational information is prominence, not relevance

Passengers highlighted the lack of a coherent design language for OIS

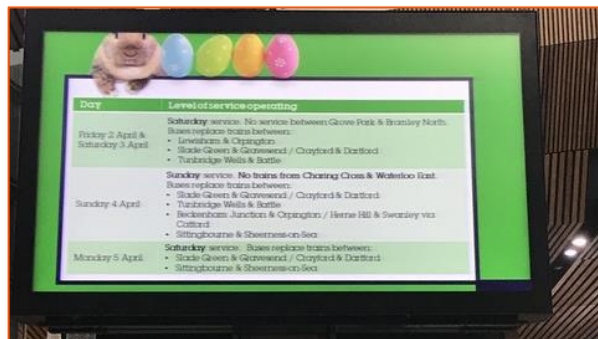
Particularly after seeing examples of their fellow passengers' stations, many felt that there was a **confusing variety of styles and designs** at play here. Passengers struggle to differentiate OIS from advertising, and without a coherent and uniform identity of their own, OIS can fade into the background.

As in 2014, passengers expect OIS to 'behave' like advertising: attention-grabbing, concise and with a clear call-to-action

However, there is persistent confusion between OIS and advertising boards. Many assume that 'public awareness campaigns' around homelessness, COVID-19 or other issues fall under the banner of OIS. The challenge is for OIS to develop an appealing and distinct identity that behaves like advertising without simply being dismissed as such.

Many argue that they should be located at the earliest point of the passenger journey, at the station entrance

In cases of severe disruption, many wanted to know before even entering the station, so that they can begin to make alternative arrangements as soon as possible. **A single, prominent OIS located outside the station**, or just inside, would provide passengers with a prompt answer to their main question: is the journey viable, or should I try something else?



A popular and successful example of operational information made prominent and clear. The easter motifs were attention-grabbing and clearly signpost that the information will be about travel during the Easter period.

For me this was the weakest part of the whole experience. These operational information boards were far too small and also very bland. You would need to know where they are. I spotted three: one set back from the South Bank entrance in front of the higher platform numbers, the other in the centre of the station, the other at the far end beyond the clock. Far too slimline and of a purple colour which was very neutral and lacking clarity.

London Waterloo,
Commuter, Older

Existing operational information screens tend to lack a clear call-to-action

Given the relatively low salience of OIS in passengers' set of information tools, these screens do need to push harder and **win users' attention**.

Techniques like using red to indicate a delay and green to indicate that the service is running smoothly can help here. Passengers are accustomed to seeing bold, clear information on LCD screens and often feel that OIS can come across as too technical, muted or verbose.

Again, there was little doubt in passengers' minds that the information contained on OIS was important. If OIS are to be used, passengers hope to see these screens act as a 'go-to' for information – something actively consulted – but in their current presentation and positioning this is unlikely.

Generally, OIS lack brand discipline. The iconography may carry more meaning and value if they were standardised and passengers were able to train themselves to recognise them consistently.

It's just extra stuff that may impact your journey, I guess. The one that warns you about no trains is definitely useful because it's not something you'd see on your phone; if you saw it on a big board you'd plan ahead.

Leeds, Younger,
Commuter

I mean I've seen them...But you look at it and think 'well I'm not travelling on that date so I'll keep walking'

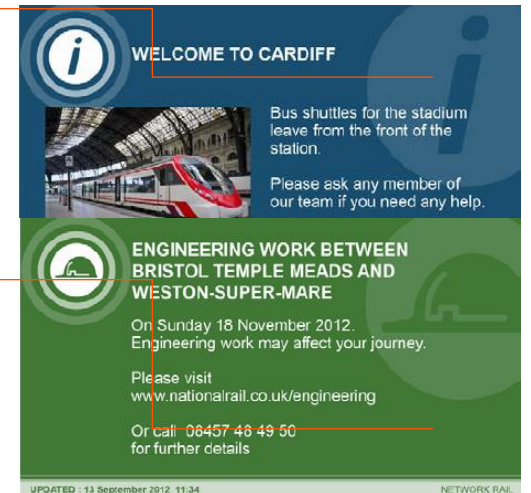
Newcastle, Older,
Leisure/Business

Large, succinct heading immediately telling passengers what they need to know.

Effective use of colour. Red is immediately understood to mean 'disruption' or 'bad news'.

Icons fade into the background – virtually no one noticed these spontaneously.

Colour under-used – using green to represent potential disruption is jarring.



Passengers struggle to evaluate the future value of OIS in passenger information

Most felt that operational information screens have not yet reached their potential. Seeing lower priority information or 'public awareness' messaging (not leaving baggage unattended, wet weather warnings etc.), can leave these screens feeling somewhat redundant. **They have not yet had a fair shot at being useful**, in passengers' view.

Passengers reasoned that these screens have not yet demonstrated their usefulness, but are unwilling to rule out the possibility that OIS *could* do so if the information shown were streamlined. They require a stronger focus on journey-relevant information rather than 'generic' animations or public service announcements.

If this can be implemented, passengers are open to the idea that OIS could become a valuable source of information in their own right. They want these screens to be **given a chance**, before being dismissed as unhelpful.



Operational Information Screens can do more to assert their role in providing insight to passengers

At present, passengers only notice the screens during periods of disruption

Since periods of disruption are atypical, most passengers do not notice OIS, most of the time. They struggle to reason that a screen which only occasionally provides important information could have a more routine purpose.

Simply reassuring passengers that there is a good service on all routes would be beneficial

Among London-based passengers, there was a strong sense that TfL 'rainbow boards' perform well in updating passengers on the overall 'health' of the service. This is often the sole concern of passengers as they travel from station to platform.

Consistency of execution and messaging is vital to conveying the purpose of OIS

In the example opposite, even if the screen is not highlighting a delay, the purpose of the screen is clear. TfL passengers **know what this screen is for** and can consult it as part of their journey routine. OIS could do more to announce its purpose in the same way as these TfL screens. Even when there is no significant information to convey, to encourage passengers to incorporate it into their toolkit of information sources.

*Passengers do not actively check OIS. They are helpful for further information on **known unknowns** like a recently-announced delay, or the impact of adverse weather. However, due to their lack of prominence, they are **under-utilised for information passengers are unaware that they need** (e.g. the potential impact of football matches, protests or other unforeseen events on train travel).*





Disruption

Passengers want information to be 'dialled up' significantly in periods of disruption

Commuters and routine leisure/business travellers in particular tend to make their journeys on 'autopilot'

These passengers expect a disruptive approach – short, sharp communication that cuts through any distraction and instantly alerts passengers to the fact that all is not well. The use of colour (particularly red) to highlight visually that something is amiss would be valued here.

Unsurprisingly, passengers would value an all-channel approach. Screens form an important part of a wider picture here – PA, staff, and screens should be providing an answer to the key question: **"What happened, and how does it affect me?"**

Screens

- A clear and transparent indication that disruption has taken place. Simply showing a 'new expected time' can feel equivocal and unclear.
- Directive information: "Please enquire" feels insufficient.

Staff

- Detailed information at the ready to help individual customers mitigate against the delay. Again, an indication on whether or not to seek alternative arrangements would be valued here.

Public Announcements

- Loud, clear, announcement that the journey has been disrupted and that something is out of the ordinary. Apologies are best-placed here.

There's a wealth of information but when something goes wrong you have a short window and there's nobody there, or the people who are there have a queue of about ten people. I just want to hear it in case they have that little bit of extra information that the screens don't.

Manchester Piccadilly, Older, Leisure/Business

If the information is in real time then great but if it's even five minutes out of date then it's useless.

Newcastle, Older, Leisure/Business

During disruption, passengers expect station screens to provide succinct, directive advice

Passengers highlighted the overall lack of a 'so-what' when disruption is announced

- Many describe a state of uncertainty where they are unsure whether a delay is **severe enough to warrant finding an alternative route**.
- For this reason, passengers value knowing either from staff or from signage, the point at which they should **consider abandoning the journey** and seeking a different route, or a different mode of transport altogether.
- Passengers want to know, at a glance, what is happening to their intended train, as well as the general situation on the service as a whole.

Most passengers would prefer not to receive information about *possible* delays

- Many argue that this would be **stressful**. More fundamentally, passengers struggle to imagine what they would actually *do* with that information. Is it an indication to plan for alternatives, or simply wait patiently?
- Passengers argued that a more **directive** approach to potential disruption could be appropriate, perhaps even through a 'traffic light' system on screens covering the spectrum from "good service on all lines" to "make alternative arrangements" for a given journey.

Engineering works... it might be useful. It's another maybe, isn't it? Or sometimes it'll be apologising for something so you just think 'okay I'll forgive you...' It only affects certain people, but for the people it does affect, it's useful."

London Waterloo, Younger,
Commuter

If a service has been disrupted then it's the first thing you need to see, right at the entrance to the station. Otherwise you've already sat down and got your coffee and wasted time.

London Waterloo, Younger,
Commuter

Passengers expect a change in tone and urgency from PA systems during disruption

At present, PA announcements face a range of challenges in terms of making themselves clear and relevant for passengers



Lack of clarity

- Muffled, sometimes rushed, and crowded out by other noise in the station environment.
- While passengers argue that using a live announcement rather than a pre-recorded announcement demonstrates urgency, it is frustrated by the fact that the announcement itself can simply be too hard to hear.



Lack of salience

- Inevitably, PA announcements will not be relevant to most passengers, most of the time. Passengers see them as situational, 'listening out' for whether or not the announcement applies to their journey or not. If it does not directly mention 'delay' or the train they are about to board, most passengers will tune it out.



Lack of urgency

- The rise of noise-reducing headphones has meant that many passengers are simply unable to listen to cues that an announcement is happening. PA announcements do not 'announce themselves' clearly.
- The use of a sound, or preamble, to indicate that a) an announcement is about to happen, and b) the announcement is important, may add relevance.

*The announcements are good, but they're often **broken**, talking from experience with going from Tamworth – the actual voice is distorted. I suppose it's useful but also, 99% of people have headphones in! It's one for the older generation. It's dying out a bit.*

Birmingham New Street,
Commuter, Younger

It sounds like a generic voice saying the same thing over and over again.

Birmingham New Street,
Commuter, Younger

*For the love of God, can we invest in decent **microphones**. You can't really hear, and you're willing, but you just can't. They work, they do the job...*

Leeds, Commuter, Older

Passengers generally accept pre-recorded announcements, but during periods of disruption, live announcements are reassuring. They demonstrate that station staff are "on the case" and working to resolve the issue.

During disruption, staff are expected to address specific, individual problems

Passengers recognise that PA and screen information is general; addressed to everyone and providing a broad view of the issue

As a result, staff are looked to for tailored information. Passengers are realistic here. They do not expect staff to know anything over and above what the station management know themselves; but they do expect a degree of insight greater than what may be shown on the screens.

In addition, they do expect advice, as opposed to information: more than simply “what can the passenger do?” they hope to understand **“what should the passenger do?”** There is general goodwill and trust here. Passengers recognise that staff have the best information available and would almost universally act upon that information.

Roaming staff were preferred to staff stationed in information booths

This preference is often a function of users’ dislike of queueing. It can be anxiety-provoking or frustrating to have to wait in line for an answer to an urgent question. Unlike with screens or journey planning tools, passengers intend to act upon staff advice *immediately*, rather than later on. Roaming staff simply *feel* more accessible, whether or not this is the case in practice.



Innovations in Station Information

What social or technological changes do passengers anticipate?

Passengers anticipate (loose) social distancing measures being in place well into the future

As a result, they expect stations to continue providing information on capacity, ability to socially-distance, and the rules (if any) on staying safe. Current passengers do, however, argue that they are all too accustomed to this information are unlikely to value seeing it on prominent or central screens.

I will no longer be commuting by train five days per week. I would like an app that I can programme on the days I intend to travel and 30 minutes before my intended train on which I wish to travel advises if its running on time.

Orpington, Commuter, Younger

Passengers largely expect developments in mobile devices to continue

Passengers expect access to mobile journey planning tools to increase over time. While they stop short of arguing that screens will diminish in importance, they do argue that screens will need to become more streamlined and account for the fact that more and more information will be accessed in advance, or on-demand.

Information-wise I'm not sure what appetite there will be for touchscreen machines for obvious COVID reasons so bigger, clearer display boards that are both accurate and up to date will be needed.

Birmingham New Street, Commuter, Older

Many hope to see richer information on the train itself

Passengers, especially those who take complex, multi-modal or interchanging journeys, recognise that their information needs do not end upon boarding the train. On-demand (potentially touch-screen-based) information about connecting trains, onward journeys, delays en route, and operational information, would all be valued.

You could have a touchscreen on trains where you could find that same information you do on platforms. The cleanliness of trains has increased and I think this needs to be maintained.

London Waterloo, Commuter, Older

Passengers do feel that station information screens should be modernised

Respondents felt that enhancing screens would bring practical benefits, but fundamentally this feels like something that 'ought' to happen

Practical benefits centred on legibility and clarity. It is widely felt that conventional dot-matrix screens are *good enough*, but that changes to the use of colour, and moving from dot-matrix to LCD could improve 'at a glance' comprehension.

Commuters in particular have higher standards for modernisation. They want to be able to interpret station information in a matter of seconds, and any improvements that enable this will be welcomed.

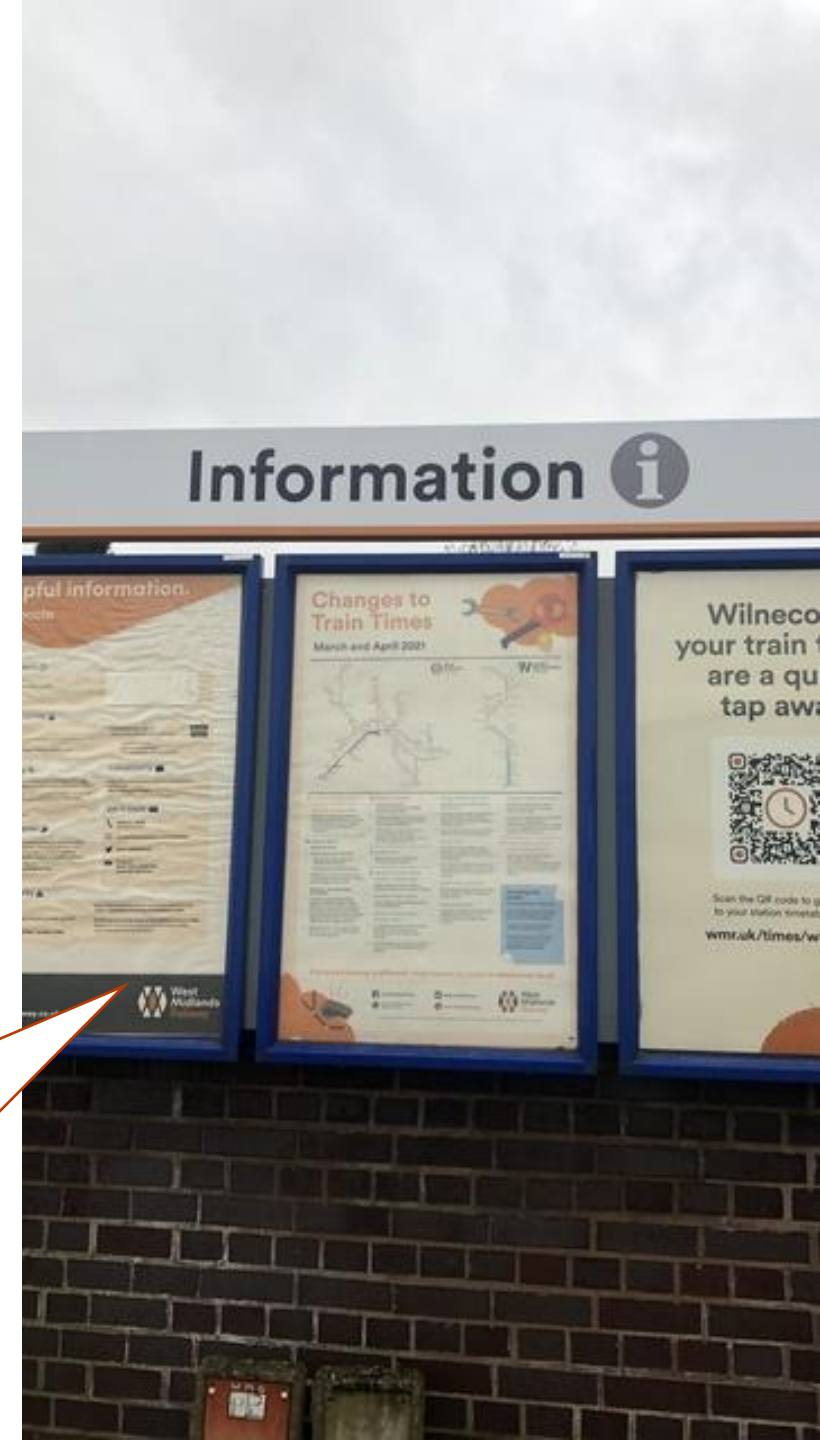
Several pointed out that in the last 5-10 years, smartphone interfaces have **raised the bar for information displays**. Passengers are likely to object if station screens lag too far behind in this respect. Already, dot matrix screens are beginning to feel behind the curve.

*LCD is much clearer. It doesn't feel like something that should be done straightaway, maybe just as the stations are upgraded. There's nothing wrong with the orange, **they're not illegible**, but it would be an improvement.*

Birmingham New Street,
Younger, Commuter

*The station I departed from didn't have much info clearly displayed for passengers. The information is small and nothing you could read at a quick glance. I **use the train for work and if there was genuinely important information I needed, I wouldn't stop and look at such small text**. It needs to be eye catching if it's that important.*

Birmingham New Street,
Older, Commuter



The meaningful and relevant use of additional design elements and colour is a priority for passengers

The West Midlands example was particularly well-liked: clear, succinct and relevant

12:17 Platform 3 Birmingham New St		Later trains	
Calling at:		Time	Desintation Platform Status
	Marston Green	12:20	
	Lea Hall	12:23	
	Stechford	12:26	
	Birmingham New St	12:36	
West Midlands Railway First Class in the centre		12:20	London Euston 4 On time
		9 coaches	
		12:29	Birmingham New St 3 On time
		12:29	London Euston 4 On time
		12:38	Manchester Picc 1 On time
		via Stafford	
		12:40	London Euston 4 On time
		10 coaches	
		12:41	Birmingham New St 2 On time
		11 coaches	
		12:45	Rugeley Trnt Val 3 On time

Large headings clearly outlining the purpose of the screen

Spacious text – easy to read and not at all crowded

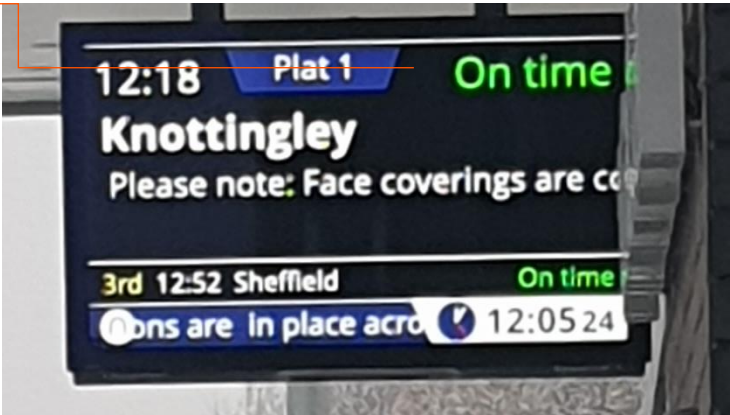
Calling times and stations displayed vertically

Crowding is useful and relevant, but not obvious for some

The use of green to signify that the train is on time was very appealing indeed. The use of colour to *reassure*, at a glance, is something passengers will expect to see more of as screens develop.

The use of yellow to separate *headings* from the main body of the screen was valued.

Some point out that having an analogue clock can be helpful to avoid errors in understanding 24-hour time



The use-case for totems feels unclear for many

Passengers are very unlikely to use totems as a journey planning tool

As discussed, and perhaps as a major change since 2014, smartphones now dominate the journey planning landscape. The idea of turning up to the station 'without a plan' feels very strange.

Passengers might need to 're-plan' a journey as a result of disruption, and totems are understood as valuable here, but again, phones are the likely go-to, and concerns emerge about passengers crowding the screens in cases of severe disruption.

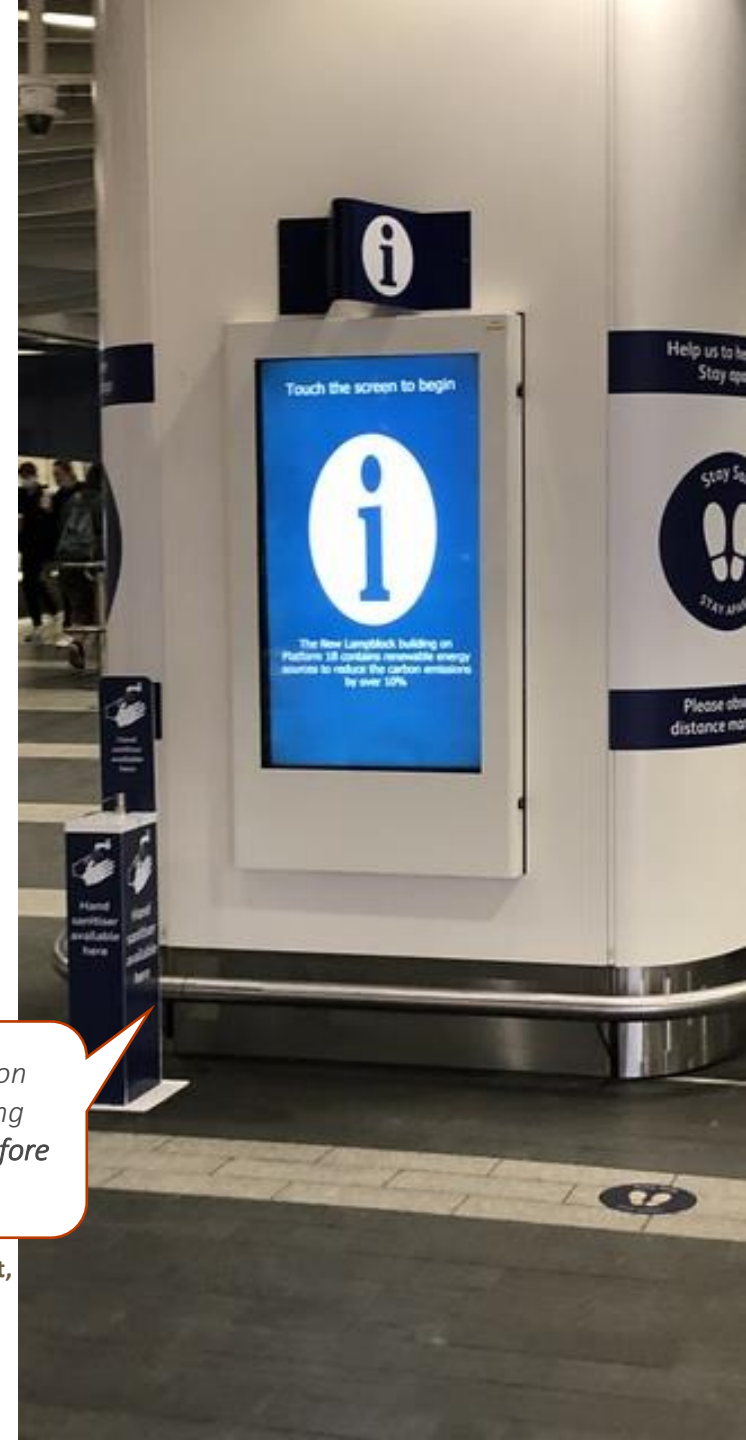
Combining active and passive information in one screen is confusing for many

Passengers were shown examples of 'interactive' totems that *also* scroll through operational information. These two approaches feel at odds with each other. If totems convey essential information like route disruption, will having passengers interacting with the totem prevent others from seeing that information?

Passengers like totems insofar as they represent an innovation. It's pleasing to see that something has been done. They can envisage a role for totems in providing operational information, given that they are prominent, well-positioned, modern and well-presented.

The information screens at the larger station were interactive which was really interesting to see. I've never paid attention to these before but it's useful for less regular travellers

Birmingham New Street,
Commuter, Younger



Passengers expect smaller stations to get their fair share of investment in the overall scheme of information enhancement

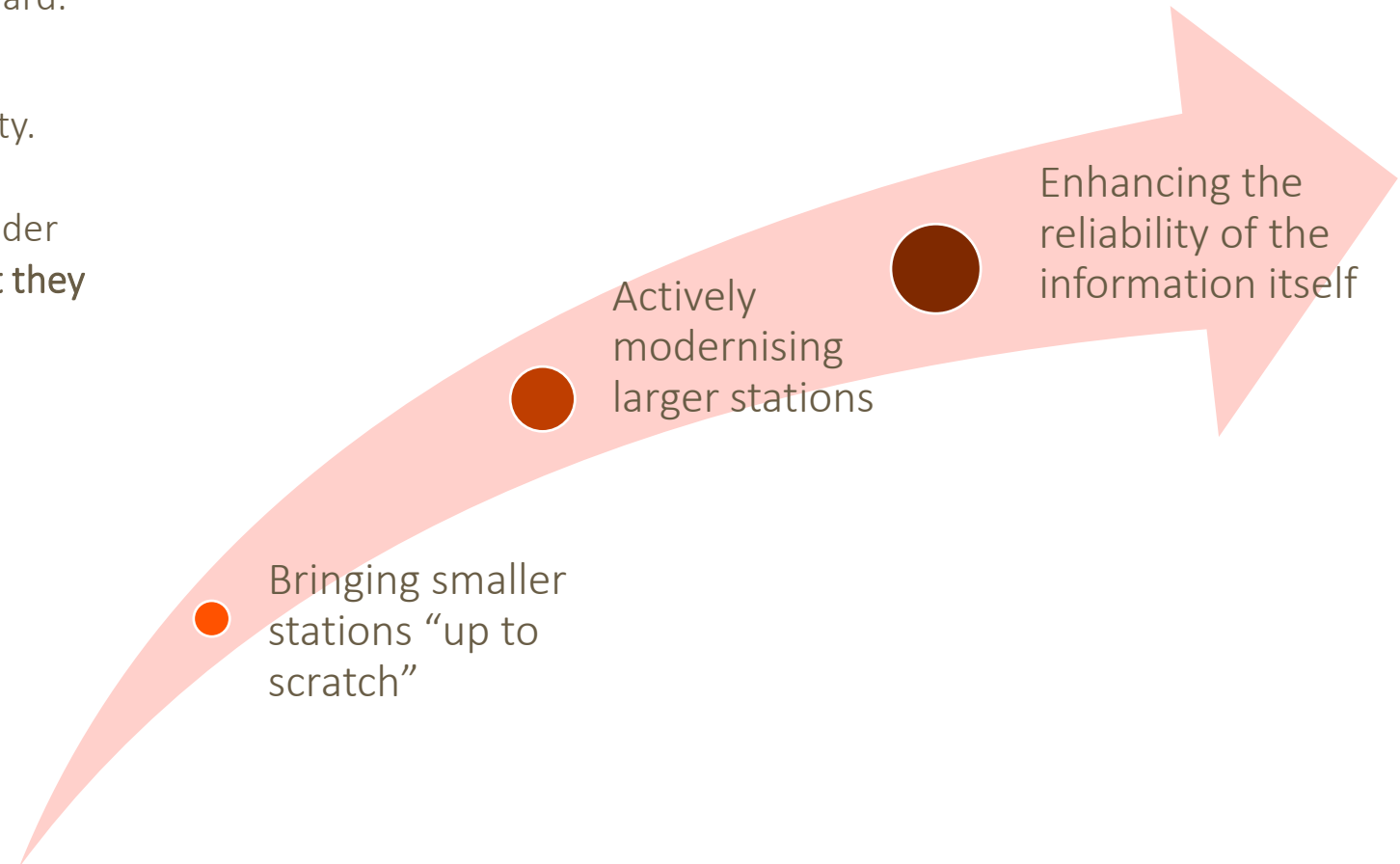
While the most advanced information screens are seen as most beneficial for larger stations, passengers do expect smaller stations to be brought up to a 'minimum' standard.

Ultimately, it is difficult for passengers to separate the presentation of information with its underlying reliability. Any enhancements will be seen as one step along a spectrum that culminates in broader changes falling under "reliability". **The end goal is for passengers to trust what they see on screens, regardless of how it looks.**

There's always something going wrong and that's where the mistrust of the screens comes from. You look at the board and you think they're going to be right but they do let you down.

Manchester Piccadilly, Older, Leisure/Business

Ideal "roadmap" for station information





Summary and Conclusions

Key Conclusions

Passengers expect enhancements to station information to happen gradually, but definitively

Few if any of the passengers we spoke to see these enhancements as urgent. However, they can be frustrated when stations have obviously undergone a significant upgrade (as in the case of Leeds), without any attention paid to the screens. **Station upgrades should be seen as an opportunity to improve information first and foremost, in their view.**

As ubiquitous as mobile phones are, in the grand scheme of digital information they are no substitute for screens

When asked directly, virtually no one felt they could make a train journey purely based on their phone information. Screens are a necessity, and they are expected to stand alone: **there was no suggestion that phones could, or should, “share the workload” of information screens;** and certainly no suggestion that information should be placed exclusively on one or the other.

There was a strong preference for white-on-black LCD screens, even for the most basic information

This is **both a function of colour and font.** White text feels more legible, and the higher definition of LCD screens is seen as necessary to maximise the clarity of the text. However, passengers know to look out for orange screens. If LCD screens can be rolled out with larger headings, or additional colours to help passengers recognise them as CIS, they can remain eye-catching.

Operational Information Screens do hold value, with executional issues hindering that value

Passengers recognise and accept that not all operational information will be relevant to them all the time. However, too many of the messages currently displayed on OIS feel low-priority or outright unnecessary.

‘Reminders’ about passenger behaviour are dismissed as ‘public service announcements’ rather than anything worth focussing on, and this **negates much of these screens’ potential value.** The idea of OIS acting as a port of call for *potentially useful information* is valued, and passengers certainly do not want it placed on CIS, but too much of that information feels disposable at present.





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