

FUTURE DEVELOPMENT OF APPS

Research Debrief

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Contents

3 - Background, objectives and methodology

8 - Use of apps in the passenger journey

20 - The app market, current trends and future developments

30 - Reaction to and preferences for tested app development ideas

39 - The requirements of a good app

46 - Summary and recommendations

49 - Appendix

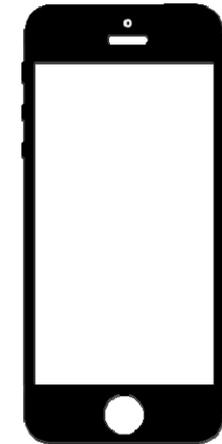


Background, objectives and methodology



Background

- Transport Focus is carrying out research for the Department for Transport (DfT) on smart ticketing. Part of this research looks at rail apps used on smartphones and tablets by passengers whilst travelling by rail.
- Previous research provided information on the use, awareness and functionality of these apps and desired requirements and developments. It showed that awareness of rail apps was low, but that passengers were positive about them once they had seen them.
- Apps may never appeal to all rail passengers, but they are becoming increasingly prevalent as smartphone and tablet ownership grows. The rail industry needs to ensure it is up to speed on developments.
- The limited awareness and usage of rail apps meant that passengers in previous research found it difficult to identify any significant improvements they would like to see. Further research was needed amongst people more engaged with technology in public transport, better able to critique current offerings and to identify improvements and developments for the future.





Objectives

- The aim of the research was to understand how railway related apps could be developed in the future. This meant understanding how apps are currently used, reviewing apps used in other sectors (inside and outside the travel industry), and testing some ideas for development.
- The specific objectives of the research were:
 - **to review the innovation in apps in other sectors, including other transport sectors, retailers, finance, betting and telecoms**
 - **to assess whether predictions for development of non-travel apps can be applied to travel apps**
 - **to understand if passengers think there are enough apps for trains and all other modes of transport, including bike, car, bus and plane**
 - **to understand how rail apps are being used by heavy users, what they particularly like about the rail apps that they use, the functions they use most and the improvements they would like made**
 - **to explore what passengers think of some new ideas for apps in public transport and how they could be developed.**
- To achieve these objectives, we followed a three-stage methodology.



Methodology



- In depth telephone and face-to-face interviews with eight travel, rail and app experts.
- Details of the interviews are in the Appendix.

***Recruiting heavy users of rail apps**

- Recruiting passengers who regularly used a range of rail apps was problematic:
 - they were difficult to find
 - some were confused about the difference between mobile sites and apps.
- This supports previous research that suggests passengers have limited awareness, and make limited usage, of rail apps

- Accompanied 'surfs' with 12 passengers very knowledgeable about apps, who use them frequently for a range of purposes including train travel*.
- Setting them tasks to complete on their mobile phones and recording their movements and navigation.
- Asking them to download and test three rail apps and feedback on their experience.
- Participants included iOS and Android mobile users, business, leisure and commuting passengers and a spread of gender and ages.
- All 'surfs' took place in London.

- Eight mini focus groups: two each in London, Manchester, Bristol and Birmingham.
- Each group had five participants and lasted approximately 90 minutes.
- The groups were split into:
 - four groups of participants who were heavy users of apps and heavy users of travel & rail apps
 - four groups of participants who were heavy users of apps, but didn't use travel & rail apps or only used them lightly.
- Participants included a mix of iOS and Android mobile users, business, leisure and commuting passengers and a spread of gender and ages.

Use of apps in the passenger journey



Apps used across all modes of transport

- Passengers used travel apps across a range of different modes of transport.
- Some apps are only used in certain parts of the country. This is, particularly true of rail apps, where specific TOCs operate.
- A larger range of apps are used in London, due to:
 - more modes of transport
 - more apps available.



TRAIN	BUS	TAXI	PLANE	TfL	OTHER
<ul style="list-style-type: none"> The Trainline National Rail Enquiries First Capital Connect Virgin Trains Red Spotted Hanky Rail Easy Greater Anglia My trains Northern Rail UK Train Times 	<ul style="list-style-type: none"> Bus countdown Next bus Bus checker <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>Bus apps used solely in London because of:</p> <ul style="list-style-type: none"> more routes timetables more variable </div>	<ul style="list-style-type: none"> Uber Hailo Addison Lee 	<ul style="list-style-type: none"> Easy Jet Sky Scanner British Airways 	<ul style="list-style-type: none"> Tube Map London Transport 	<ul style="list-style-type: none"> Google Maps City Mapper Expedia Trip Adviser Booking.com M8 Airbnb



Those used solely in London highlighted in orange



Limited use of rail apps

- Passengers only use a small number of rail apps – often only one or two. This applies both to heavy app users and those taking the train on a regular basis.
- Passengers use 'shortcuts' to access train information, for example email/screen shot information.
- Traditional techniques, such as radio and station information screens, are used out of habit.
- There is not much 'churn' of apps - once passengers find an app that 'works for them', they tend to stick with it
- Apps are discarded because they malfunction, not because they don't perform a desired function
- Passengers feel that there are enough travel apps in the market - some are overwhelmed by the quantity.
- Consumers struggled to identify any key differences between apps. There is a perception that:
 - all train apps are the 'same'
 - all the information comes from the same central base
 - they are simply branded differently.



"There's too many, I mean like the train ones, there's hundreds and hundreds of them isn't there. Every train line has got one. And then you've got the national ones haven't you, you've got Virgin, the O2 one which gives you all the information, but I think you can get overwhelmed with them."

London, Commuter, Heavy user



Different apps for different occasions

- Where passengers do use more than one rail app, these are typically for differing purposes:
 - information about departures is more easily accessible on TOC apps – they have fewer functions, are more simplistic, needing fewer 'taps' to access information
 - but they don't deliver the richer information that is often needed on less regularly made journeys
 - habit – passengers are unable to reason their usage.

"It's just habit, now I'm talking about it, it does seem quite strange. For years now, I've used Red Spotted Hanky or Virgin to check on train times, and only since I've been sort of living on a rail line close to me I have been checking National Rail. It's just a habit, but probably after speaking to you now, I will probably review that."

Surf, Commuter, Younger

COMMUTING

- For commuting or regularly made journeys, where minimal information is needed
- For example: time of next departure, or platform number



BUSINESS/LEISURE

- For less familiar or longer distance journeys, where there's little prior knowledge and more information is needed
- For example: destination/arrival stations, departure times, checking cost of trip, purchasing tickets



SITUATIONAL

- Passengers feel that they should use the app for the operator with which they are travelling
- For example: using the Virgin App when travelling on Virgin trains

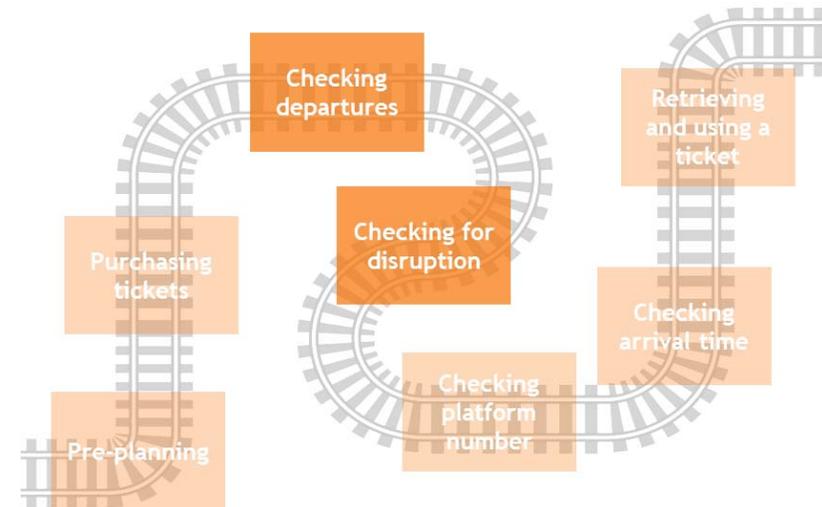




Commuters use a limited number of functions

- Commuters use rail apps for a small number of functions:
 - departure times
 - information about disruption.

*"Normally I will wake up at about quarter to seven and pretty much the first thing I do is to check just to see the train times. I double check before I leave the house, to make sure there's no delays."
Surf, Commuter, Younger*



- Given the limited information requirements, speed is critical:
 - minimum number of 'taps' to access information
 - previous searches stored for future use
 - straightforward navigation through the app.
- Information is accessed through:
 - live train times or journey planner.

The screenshot shows the First Capital Connect app interface. It features a dark blue background with white text and icons. The top left corner displays the 'First Capital Connect' logo. Below the logo, there are several sections: 'Find Trains' with a train icon, 'My Tickets' with a ticket icon, 'Live Train Times' with a clock icon, and 'Information' with an 'i' icon. On the right side, there is a 'Latest Search' section showing 'Cambridge London', a 'Next Ticket' section showing 'May 16 Cambridge London Kings Cross', and a 'My Account' section with a person icon and a 'Nectar' logo.

First Capital Connect - an example of an app that is favoured by commuters:

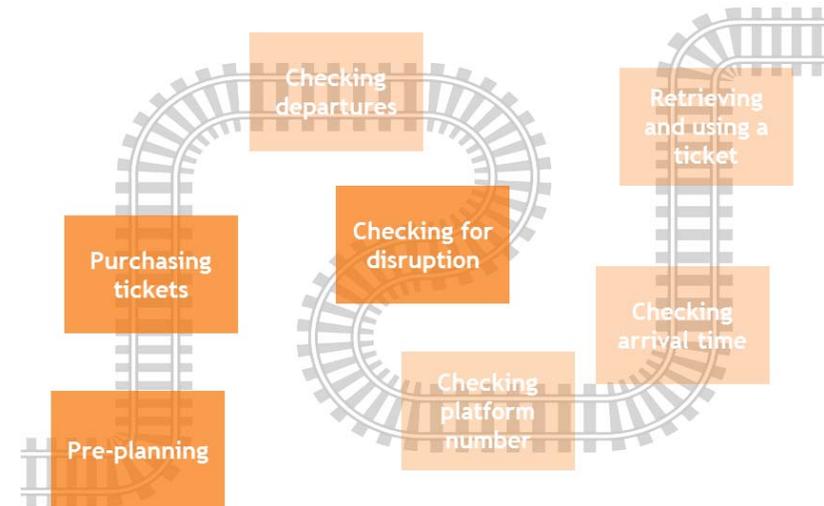
- Icons and colours make it clear where to navigate quickly and easily
- Minimal functionality, but all functions serve a purpose
- Recent searches saved
- All features fit onto one screen - no scrolling



Same story with business/leisure users

- Business/leisure travellers also use a limited number of functions
 - pre-planning: researching destinations, ticket prices, and (some evidence) of purchasing tickets
 - checking for disruption.

*"I don't use apps past the pre-planning stage. Once I have received my ticket via email I will use this and the information at the station."
Surf, Business/Leisure, Older*



- They know little about their journey.
- Detailed information is required, including:
 - ticket prices for all trains and deals available
 - all route options
 - arrival and departure times
 - ability to search for travel weeks/months in advance.
- Initial information is accessed using the journey planner
 - further information accessed from ensuing features.



Red Spotted Hanky - an app favoured by business/leisure travellers:

- Colours and icons give a friendly/easy to use feel.
- Train times and corresponding ticket prices on a single page.
- A perception of best value ticket prices
- Purchase tickets directly through app - not transferred to internet based page.
- Can plan a journey up to 16 weeks in advance.
- Can enter towns/cities into departure/destination fields, rather than station name.



Why are rail apps underused?

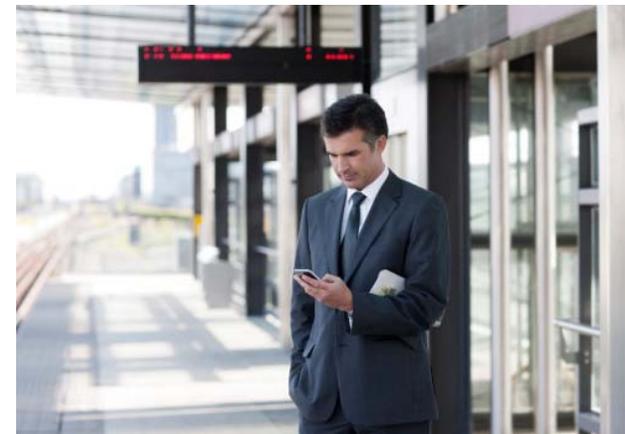
- Even heavy app users complete tasks by other methods.
- This stems from a lack of knowledge of what rail apps can provide, habit, security and convenience.

Task	Primary alternative method used	Reasoning
Pre-planning journey	Using an internet webpage	<ul style="list-style-type: none">• Perception that more information is provided on a webpage• Larger screen makes navigation easier – less 'fiddly' than on a phone
Purchasing tickets	Using ticket machine	<ul style="list-style-type: none">• Prefer security of using a machine• Need to pick-up ticket from a machine anyway – not downloaded to phone• Fear of phone running out of battery
	Using an internet webpage	<ul style="list-style-type: none">• Security of entering credit card details into app• Get transferred to a webpage from the app anyway
Checking departures	Information boards at station	<ul style="list-style-type: none">• Easily accessible• Station information trusted over app
	Using an internet webpage and email or print details	<ul style="list-style-type: none">• Security in case of lack of internet
	Collecting information prior to departure through app and taking a screenshot	<ul style="list-style-type: none">• Security in case of lack of internet• Not required to go back into app and re-enter information
Checking for disruption	Information boards or member of staff	<ul style="list-style-type: none">• Easily accessible• Station information trusted over app
Checking platform numbers	Information boards at station	<ul style="list-style-type: none">• Easily accessible• Station information trusted over app



Travel apps are used most 'on the go'

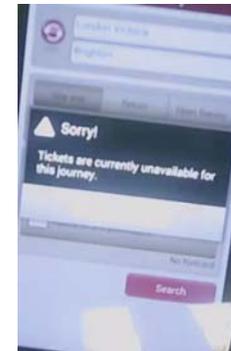
- Functionality and design are factors in explaining the lack of app usage, but are by no means the driving, or even a considerable factor.
- Rail apps are used most when information is required 'on the go':
 - pre-planning will more likely be carried out at a desktop computer or laptop
 - 'live' information can be sourced at the train station – or is already known through pre-planning, or because it is a regularly made journey.
- Increase in use is only likely if:
 - It becomes more convenient to use an app than other sources
 - for example it is quicker to access the desired information.
 - Passengers can do something through the app that can't be done any other way
 - for example mobile ticketing.
 - Apps provide more of the information required by passengers than is available through alternative sources
 - for example When at the station, information about disruption to routes.





Frustrations experienced by travel app users

- Some of the main frustrations in using travel and rail apps stem from:
 - the design of the app and the process of completing tasks
 - functions on the app not fulfilling their full capabilities.



"I was just picking stations and it was like oh that's not a station that the train actually services. And I thought why don't you just provide me with the stations that you can actually take me to."
London, Commuter,
Heavy user

Functionality

- Cannot purchase tickets up until train departure
- Directed to a mobile website
 - when journey planning
 - or purchasing tickets.

"Do you know what really puts me off apps, the advertising on them, I hate it: In fact I delete apps now because of it."
London, Commuter,
Heavy user

"When they try and sell you add-ons you don't want, like insurance for £1 to secure my seat. I generally don't need to insure my one seat to Northampton for £1."
London, Commuter,
Heavy user

Design

- Adverts
 - embedded into corners/top/bottom
 - popping up to cover the entire screen, for example the Tube Map.
- Being able to enter information in journey planners for routes that do not exist or are not possible
- Excessive add-ons at ticket purchase stage, for example insurance for ticket, hotel, car hire
- Excessive number of stages and 'taps' to access information
- Ticket prices fluctuating between different apps used, for example Trainline vs. individual TOCs
- Different versions of app for tablet and phone, for example NRES.

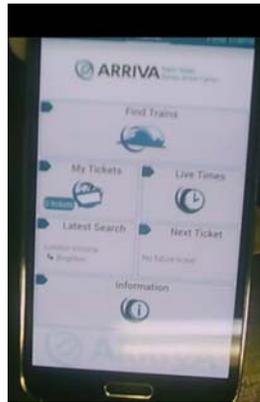


Preferences for apps - design

- Passengers have preferences for the design and layout of travel apps.

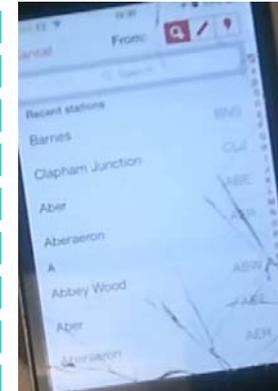
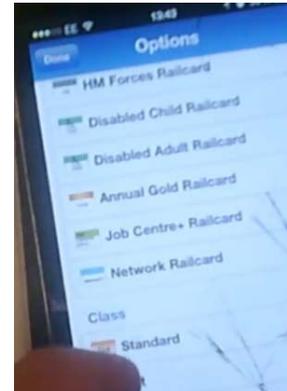
Large icons for functions on homepage:

- improves clarity and user-friendliness
- less danger of tapping in the wrong place.



Use of logos to communicate ticket or railcard:

- helps to identify type of railcard and ticket.



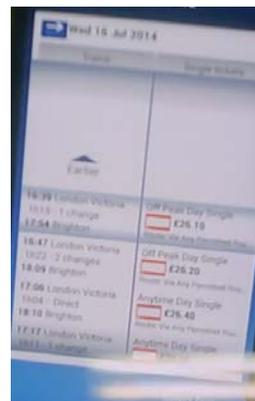
Station information:

- ability to scroll to or type station when searching destination/ departure station
- recently used stations stored at top of page.



Clear calendar information:

- scrolling area for date/time as large as possible to avoid wrong information being entered
- calendar option favoured in places



BUSINESS/LEISURE

When intending to make a ticket purchase:

- train times and corresponding prices on a single page.



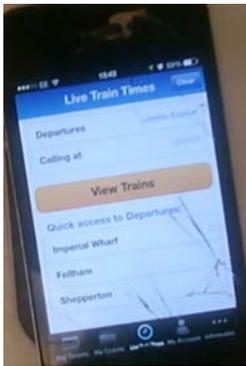
- All information and features presented on a single page.
- Limited amount of scrolling desired.



Preferences for apps - functions

- Some current features are popular with users, but not prevalent across all rail apps:

COMMUTERS

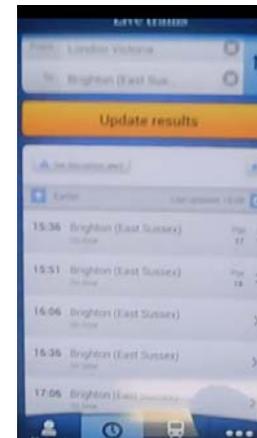


- Able to access live departures quickly from home screen.
- Regularly used stations pre-stored.

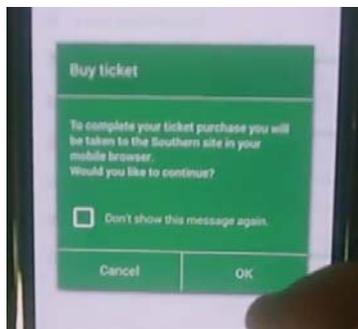
COMMUTERS



- Accessing later train times as quickly and easily as possible.
- Minimal loading time.



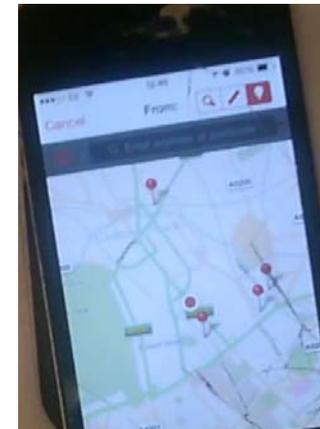
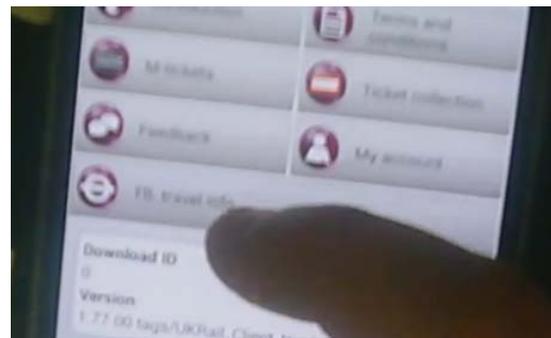
- Platform number immediately available next to train departure, with no additional taps or screens required.



- Able to buy ticket through the app instead of being taken through to internet-based webpage

- As few taps as possible to get through to ticket purchasing.

- Transport for London and Tube information incorporated into rail app.



- Map features for:
 - location of train station (s)
 - route that train is taking.

BUSINESS/LEISURE



Go-ahead app: progressive, but with some issues

- Passengers using a Go-ahead app and those testing the app for this research were largely positive about it, primarily because it does things differently.
- App requires 'set-up' when it is downloaded, including information about travel requirements such as home station, regularly made journeys, time of travel. This caused some frustration and confusion.
- But from then onwards, it provides a slicker, quicker process to accessing train information – "Two to three taps less than other rail apps in the market."

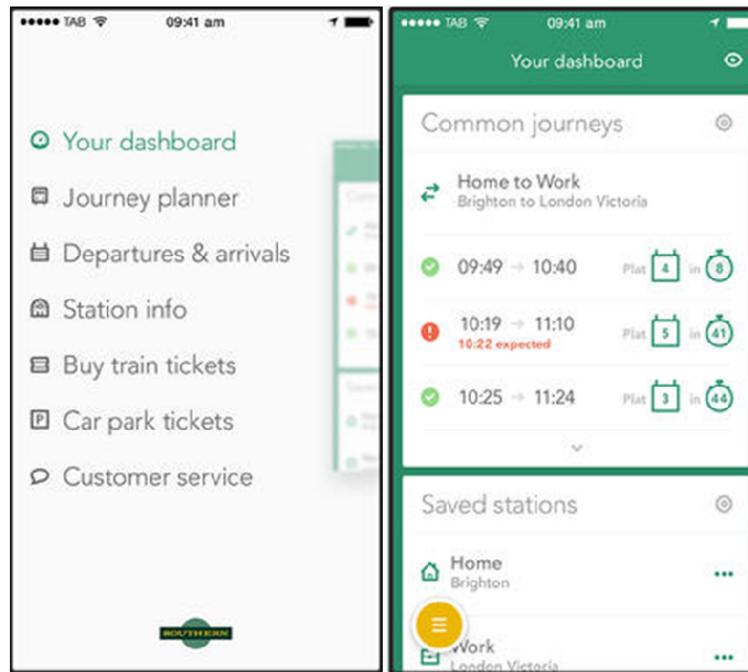
X Difficulty in understanding how to access information when first downloaded.

"It just wasn't obvious how to find, I might be a bit stupid, but it just wasn't clear how to find a train time, or about your journey. Everything just went a bit wonky - it didn't seem to be able to do it."
London, Commuter, Heavy user

X Blank screen presented without it being immediately clear the purpose of the orange 'dashboard' button.

X Acknowledgement, even from advocates, that the set-up process can be laborious.

X Redirected to website to buy tickets.



An app that offers many of the features that passengers desire and the ability to customise features. Also, quick and succinct. But is overly complex and not sufficiently user-friendly when first downloaded.

✓ Fully customisable dashboard makes it quick to access information – once it's set up.

✓ Attractive design, good use of colours and icons.

✓ Features above and beyond any other apps on the market: car park tickets, map feature, tube updates, twitter, station information.

✓ Minimal number of taps to access information.

✓ Features on the home screen are customisable.

"I work in IT, so am pretty technical, but can understand that this app might be challenging to use for the average Joe."
London, Commuter, Heavy user

The app market: current trends and future developments



Customer experience will be at the forefront of development

EXPERT VIEW

- Experts believe that apps will develop more features and improved functionality to offer customers the best possible experience.

Customer Experience

MORE POLISHED

- Increased competition and experience will result in more professional, less 'buggy' apps.
- More reliable as better information becomes available.
- More free apps - making money from advertising.

TAILORED

- Customisable - unique to the user.
- More intelligent - population of information through learning from other apps used.
- Incorporation of other apps.

NATIVE

- Designed specifically for Android/iOS/tablet.
- Working offline.

MOBILE WALLET

- Driven by technology within the phone, rather than apps.
- Apps to use NFC/iBeacon technology to pay for items.

New features



Consumers predict new features and improved experience

CONSUMER VIEW

- When asked about how apps might develop in the future, consumers focus on additional features and functionality
 - but we know consumers also want to improve the 'user experience' of apps, as this has been mentioned before as a cause of frustration.

NATIVE

- Designed specifically for Android/iOS/tablet.
- Working offline.

CONTROL

- App responsive to voice commands.
- Voice recognition/finger print scanner for security.
- Control of remote utilities, for example TV, heating.

COMMUNICATION

- Increased (and free) methods of communication.
- With friends/family.
- With companies – contacting them through Viber/WhatsApp/Facetime.

Customer Experience

SPEED

- Reduced loading time.
- Fewer steps between transactions.
- Better functionality without 'strong' 3/4G connection.

INTEGRATION

- Apps to integrate with each other.
- Carrying out an action on one app will see it replicated in another.
- Particularly true for social media.

MOBILE WALLET

- Negate the need to carry around cards/money.
- Ability to pay for items through app.
- Including loyalty schemes.

New features



Travel apps lack the functionality of other apps

CONSUMER VIEW

- Consumer expectations for how travel apps will develop lag behind their expectations for apps in general:
 - there is some frustration that travel apps do not perform as well as they should, and that they don't have features seen in other apps
 - there is a perception that travel apps should be at the forefront of innovation, considering their limited remit.
- Passengers can spontaneously point to innovations that could be made to travel apps, largely on the basis of features in other apps they already use.

	Idea	Informed by
Most desired	Offline functionality	Trip Advisor
	Using the phone as a ticket	Other tickets used: cinema, gigs, football matches
	End-to-end journey planning	Citymapper
	Updates of service through push notifications	eBay, Amazon, BBC News, Domino's Pizza
	Voice recognition data entry	Siri, Google Now
Nice to have	Live feeds of service status	BBC News scrolling feed

"I think that travel apps should be right at the front of the queue in terms of technology development. Because it's actually pretty simple, I want to go from here to here. It's not like shopping or whatever, it's really simple, so you'd think that they would be able to get there first." London, Commuter, Heavy user



Features for certain situations

CONSUMER VIEW

- Consumers also point to improvements to rail apps would make for a better journey experience.

Idea	Benefit
Loyalty scheme, for example Top cashback, Tesco, Nectar, Airmiles	Appreciation from the TOCs, reward for spending
Notification/alarm alert of need to leave to catch train	Plans journey to the station, taking into account traffic/disruption to ensure train isn't missed
Alert for when train is five minutes away from arriving at destination	Ensure stop isn't missed – particularly if asleep
Able to pre-order refreshments to seat on train	Don't have to leave seat when on-board the train
Information about amenities at station, for example restaurants, shops	Able to plan ahead – "Should I get something to eat before I get to the station?"
Information about points of interest at destination, for example Around-me, Google Maps – search nearby	If on holiday/leisure trip with time to spare

- These ideas were mentioned predominantly by business/leisure travellers and appeal to specific groups of passengers, as opposed to the masses. Nonetheless, passengers can identify instances when they would be likely to use these features and information.



Copious ideas, constrained by infrastructure and 'politics'

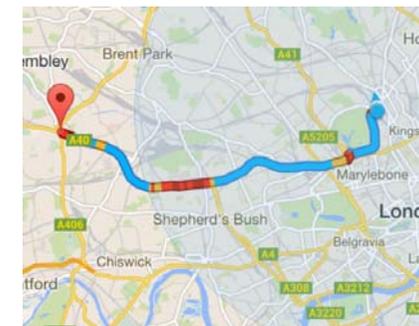
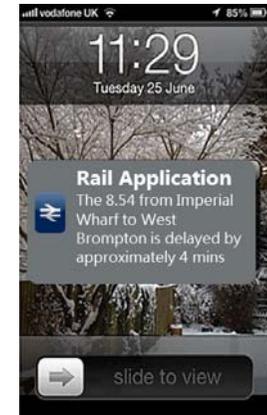
EXPERT VIEW

- Innovation in travel apps is driven by:
 - customers – feedback from app users on how to improve the service
 - competitors – responding to developments in other apps (from the same or different markets)
 - businesses – developing ideas from within the app developer's business.
- There is no shortage of ideas for what travel apps could offer in the future. Ideas mentioned by the experts as most likely to come to fulfilment are:
 - increased information
 - ticketing
 - increased functionality
 - improving the customer experience.
- However, experts are wary that innovation may be held back by the technology available on the railways and by barriers put up by the rail industry:
 - NFC/QR code readers are not prevalent on all ticket barriers
 - railways are pushing the introduction of smart cards, rather than mobile ticketing
 - National Rail/train companies are withholding data
 - London is significantly more advanced than the rest of the country in terms of the amount of information available
 - barriers to developing iOS apps are considerably higher than Android.
- Many 'ideas' have already been developed and are ready to launch. But the launch depends on improved infrastructure and the removal of barriers - both of which are out of app developers' control.



Ideas in detail: increased information

- 1. Push notifications** about the status of regularly made or pre-booked journeys
 - when the status of journeys change, automatic updates are sent.
- 2. Train occupancy** – information on capacity
 - if passengers know how busy a train is, they can alter their travel arrangements by taking a different route or a later train, distributing traffic flows.
- 3. Where to stand on the platform** for a designated carriage.
- 4. Status of different lines** through a visual traffic light system
 - green for no problems, yellow for minor delays and red for major delays.
- 5. Information on delays/disruption**
 - alternative routes suggested, including other forms of transport
 - information on severity of delay, for example the length of time a route is likely to be affected and other routes affected.
- 6. Information on the punctuality of trains**
 - based on information gathered from the previous three months.





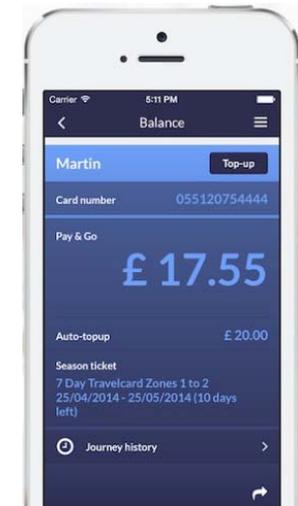
Ideas in detail: ticketing

7. Using a smart phone as a ticket

- purchasing a ticket through an app and downloading onto the phone
- using it as an electronic ticket
- using it as a QR code
- eradicating the need to visit a TVM.

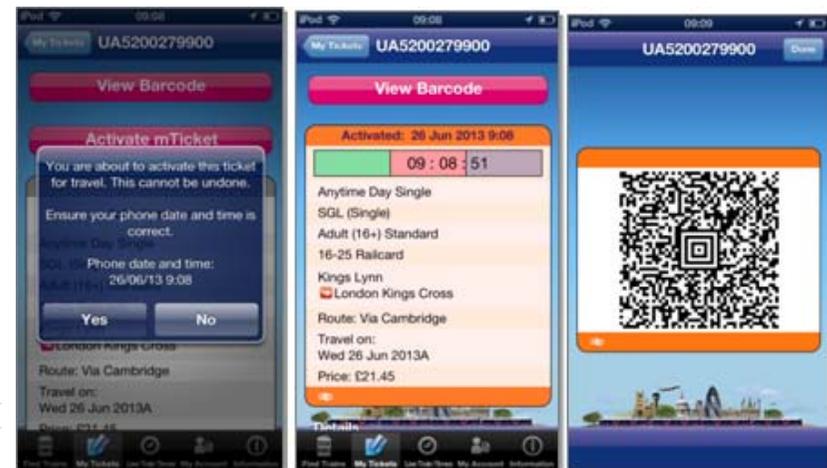
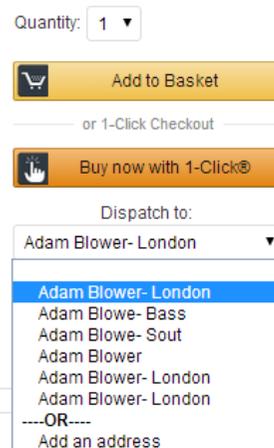
8. Faster ticket purchasing

- as few 'taps' as possible from selection of ticket to download
- for example Amazon 'one-click ordering'
- purchase made solely through the app – not transferred to internet-based page.



9. (London only) Smart/Oyster card management

- check balance and charge/top-up through app.





Ideas in detail: increased functionality

10. End to end journey planning

- end to end journey planning (postcode to postcode) incorporating other forms of transport (bus, walk, cycle).

11. Ticket management

- claim refunds/compensation for delayed or cancelled journeys
- make complaints about disruption, staff, cleanliness, etc.
- link into a business expenses account to pay for tickets.

12. Checking for and paying for car-parking spaces at station

- ahead of station arrival.

13. Seat reservation

- choose and reserve seats depending on how full the train is.

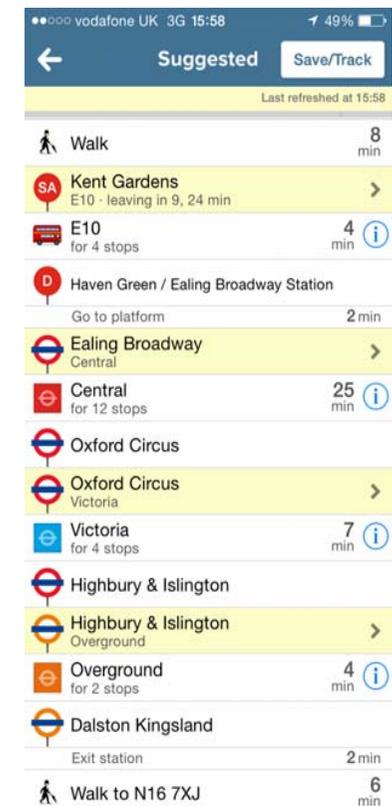
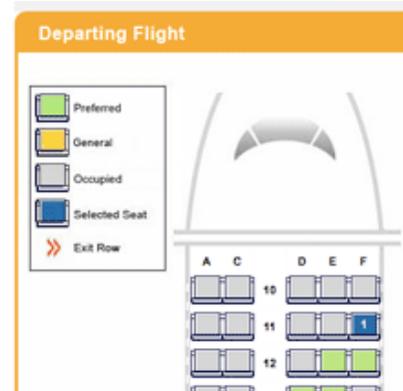
Drop Off Date: 01 12:00 am

Pick Up Date: 01 12:00 am

Parking Option: All Available

VIEW RATES

[View / Edit / Cancel Reservation](#)





Ideas in detail: improving the customer experience

14. Learning from other apps

- Rail apps are becoming more knowledgeable about the user
 - using other apps to inform this, for example Calendar, Google, Twitter, Facebook, Google maps
 - for example regularly visited destinations, behaviours (commuting times), researched locations.

15. Integrating other apps into train apps

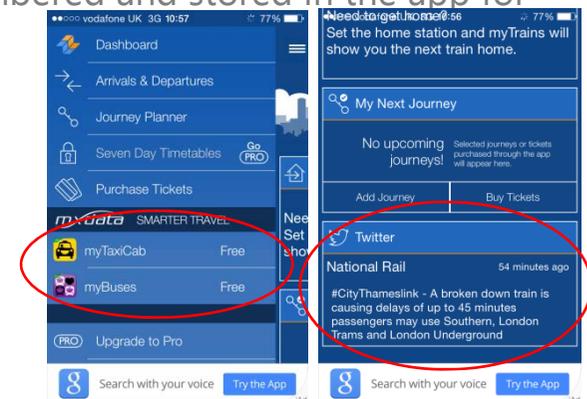
- incorporate functionality seen in other apps to limit the need for switching between apps to find different information, for example weather, Twitter, Google Maps.

16. Offline mode

- apps functioning without an internet connection.

17. Information retention

- Journeys made, travel requirements, tickets purchased, etc. remembered and stored in the app for future use.



Reactions to, and preferences for, tested app development ideas



Different levels of appeal: from the most innovative and exciting ideas, to active rejection

Highest appeal, exciting prospects

End-to-end journey planning

Offline mode

Smartphone as a ticket

High appeal, functional / useful

Push notifications

Delay / disruption information

Faster ticket purchasing

Information retention

High appeal, meet the needs of certain users

Ticket management

Oyster card management

Utilising other apps

Reserving car parking

Alternate routes in case of disruption

Limited appeal, limited utility

Train occupancy information

Advice on where to stand on a platform

Rail line status map

Train punctuality information

Reserving specific seats

Actively rejected, barrier to use

Learning from other apps



Highest appeal, exciting prospects

End to end journey planning

The rail travel app could provide journey planning information beyond that of train departure times, changes and journey time to include:

- end-to-end journey planning incorporating other forms of transport
- suggested routes on travelling to station from start destination, and from station to end destination
- route planner could include walking routes, bus times, connecting trains, taxi hire.

- very high appeal to all
- would simplify journey planning involving multiple means of transport, reduce planning time, make connections/transitions between transport types smoother
- greatest benefit for unfamiliar journeys or journeys with greater potential confusion – trips via the tube, etc.
- some duplication of functions seen in Google maps (and Citymapper) ,but an expectation of greater and more trustworthy rail travel information sets it apart.

Offline mode

An offline mode

- the rail travel app would still function without an internet connection so that journeys could still be planned without 3G signal
- like the BBC News app.

- very high appeal to all
- perceived to be of most use whilst travelling when 3g signal is often limited – removes the need to screen shot/print hard copies of travel information
- expected to be used to check connections/travel options
- greatest benefit for unfamiliar journeys
- particular interest if combined with an end-to-end journey planner, allowing navigation of tube network.

Smartphone as a ticket

The rail travel app would allow tickets to be purchased directly within the app and then saved in the phone to be used instead of paper tickets. This could work like this:

- purchasing a ticket through an app and downloading onto the phone
- as an electronic ticket or in the form of a QR code
- ticket would be stored within the app
- it would no longer be necessary to use a ticket machine or ticket office to purchase or print tickets.

- very high appeal amongst all but with some reservations
- an expected but still exciting move forward that is familiar to most from other forms of travel/events
- less time spent queuing for/printing tickets greatest perceived benefit
- concerns regarding consequences of loss of battery/phone, and buying tickets for multiple people or upgrading tickets
- perceived need for a 'back-up' option that could make a smartphone ticket redundant.



High appeal, functional/useful

Push notifications, delay/disruption information

Information about regularly made or pre-booked journeys is automatically sent to your mobile phone as a notification from the rail travel app

- when the status of the train for your journey changes, updates are sent.

- appealing for all, if customisable
- a logical next step for rail apps, some surprise that this wasn't already a feature given its ubiquity
- to be useful, it needs to be relevant, timely and of a frequency that does not cause annoyance
 - it needs to inform users of issues before they arrive at the station, where there are multiple sources of travel information
- most want to be able to customise this feature to match their needs for regular/planned journeys.

Information retention

Information retention

- the rail travel app could retain information about journeys made, travel requirements, tickets purchased, etc.
- these would be stored in the app for future use – regular journey options when purchasing tickets, etc.

- appealing to all, but with a minority needing reassurance about security of payment details
- stored information to include certain journeys, ticket type, preferred seat type, ticket delivery/collection and payment
- some concern about payment details being stored.

Faster ticket purchasing

The rail travel app would be optimised to require as few 'taps' as possible in selecting the journey, purchasing tickets and making the download

- similar to Amazon's 'one click ordering' – selecting a product and purchasing all on the same screen, in a single click
- the would be solely through the rail travel app, with no transfer to internet based pages for different rail operators.

- appealing to the majority, with some concerns that need to be addressed
- limiting purchase to the minimum number of steps necessary is welcomed
- storing certain journeys, ticket type, preferred seat type, ticket delivery/collection and payment as default options has appeal
- a 'one-click option' does prompt some reservations:
 - most would require either a final confirmation page or the option to easily alter tickets purchased without additional cost
 - some concerns over consequences of a child accidentally ordering hundreds of tickets .



High appeal, meet the needs of certain users (1)

Ticket management

The rail travel app could offer you the ability to purchase tickets and manage accounts. Options could include:

- linking into a business expenses account to pay for tickets
- claiming for refunds or compensation for trains that are delayed or cancelled
- making complaints about the train's delays, cleanliness, staff, etc.

- appealing to business travellers and passengers who have claimed for refunds via current system
- having a separate business and personal account appeals to most of those using rail travel for business
 - expectation that receipts for all journeys can be printed.
- claiming refunds for delayed trains is welcomed. Most would expect this to be prompted via a push notification if they qualify
- the option to make complaints is less popular – expectation is that ease of the system and the potential volume of complaints would result in only impersonal, automatic responses
- doubts that train companies would be on board with these ideas.

Oyster card management

The rail travel app could also be linked to a Smart/Oyster card account. This would allow:

- checking the account balance
- charging/topping-up the Smart/Oyster card via the rail travel app.

- appealing to all (tested in London only)
- negates the need to monitor credit and weekly/monthly tickets via the top-up machines, saving time and effort
- being able to top up or buy new monthly tickets via the app would surpass the apps currently available.

Alternate routes in case of disruption

Information regarding delays/disruption and alternative options would be made available as the status of routes/trains change. Information could include:

- how severe delays are, including delays to train arrivals and effect on journey length
- other routes effected
- impact on onward journeys and connections
- alternative route options, including travel via other modes of transport.

- low level appeal due to limited applicability
- a large number of people feel that there are no alternate routes when there is disruption – especially on longer business and leisure journeys
- greatest perceived benefit is in alternate route suggestions that are fully integrated with all local travel options – buses, trams, tube etc.
- to be useful there have to be valid alternatives, not six hour multi stage journeys
- increase levels of information are more helpful, particularly the impact on onward journeys and connections.



High appeal, meet the needs of certain users (2)

Reserving car parking

The rail travel app could allow you to plan additional elements of your journey beyond the trains that you would like to take. This could include:

- checking for, reserving and paying for car-parking spaces at station ahead of your arrival.

- appealing to some
- for the majority, not being able to find a space or not having time to pay is not a problem
- greatest perceived benefit is removing the anxiety of arriving at the station and not being able to park
- some concern that parking would be another option that has to be declined before making a purchase in the app – alongside hotels, Plus Bus, insurance, etc.
- some concern about the feasibility of the system as it would require assigned spaces in all car parks.

Utilising other apps

The rail travel app could incorporate functionality seen in other apps to limit the need for switching between apps to find different information. This could work by:

- layering other apps into train apps
- news, weather, Twitter, Google Maps, email could be displayed within the app so that all necessary information is available when planning a train journey
- to keep you informed and reduce 'toing and froing' between apps.

- appealing to some, but must be relevant and customisable
- most felt that incorporating other apps would not meet a need or solve a problem they currently have
- information shown had to be relevant to travel and specifically relevant to the user and journey
- Google Maps and taxi booking options were perceived as most useful, but should be customisable via a list of features
- some concern that incorporating other apps would over complicate and obfuscate core features – such as journey planning.

"As long as it's accurate. There may be 50 car parking spaces, but if it's only updated every so often, and you get there and there's no longer those spaces available, that would be it then."

Manchester, Commuter, Heavy user

"When I did have the car, there was, probably 50 per cent of the time there was no parking spaces, so being able to go and know that I've got a parking space would have helped me a lot, because it takes that stress level, that panic away."

Manchester, Commuter, Heavy user



Limited appeal, limited utility (1)

Train occupancy information

- How busy a train is at that point with suggestions on alternate routes or times if the train is very busy.

- very limited appeal
- minimal number of situations where this information would be useful and the user could respond accordingly
- commuters must board the train that will get them to work on time and those with pre-booked seats would be unaffected
- potentially useful for those on leisure journeys with open/day returns
 - but still unlikely that plans would be so flexible as to allow different trains to be caught.

Advice on where to stand on a platform

- Advice on where to stand on the platform to board a certain carriage easily or for a train of a certain length.

- very limited appeal
- represents an excessive level of information with very few situations where it would be of use
- all are happy to walk down the train to find their pre-booked seats
- commuters know where they need to stand to board the train with most chance of finding a seat or for quickest exit from the station
- potentially of some use when traveling with a bike
- some concerns that trains don't always stop in the same positions so would be difficult to match up with markings on the platform.

Rail line status map

- A simple indicator of the status of a rail line via a colour coded map – green for no problems, yellow for minor delays and red for major delays.

- very limited appeal
- represents an excessive level of information with very few situations where it would be of use
- a map is seen as an inappropriate way of displaying this information
 - most are concerned with length of delays and whether a journey is effected, not the specific location of the issue.
- location of the problem is only of use if there is additional information provided that could help passengers bypass it and limit the delay to their journey



Limited appeal, limited utility (2)

Train punctuality information

- Information on the punctuality of trains based on information gathered from the previous three months.

- very limited appeal
- few could identify how they could act upon this information
 - PR for train companies rather than helpful information
- some business travellers would opt for a train with higher punctuality if time allowed, but most built time for delays into their journeys anyway
- seen as a duplication of information shown at stations.

Reserving specific seats

- The rail travel app could allow you to plan additional elements of your journey beyond the trains that you would like to take.
- This could include choosing and reserving seats dependent on the capacity the train is running at.

- very limited appeal
- whilst the kind of seat to be reserved when booking advance tickets is of importance to a large majority (forward facing, near window, quiet carriage, etc.) the specific seat is of extremely limited interest
- some disappointed to book window seat and be placed between two windows, but not enough of an aggravation to justify elongating the ticket purchasing process.

"It's probably crossing the line into sort of a point of interest really. That's just a pointless fact, what are you going to do with it, you're stuck with the transport that you've got available to you."
London, Commuter, Heavy user

"I think if you could opt out of that route, because I take a load of journeys that I don't care where I sit, I just get on, but if it was a longer journey, business journey to Manchester, then I would probably. But if you could sort of sign out and no I don't want to do that for this one."
London, Commuter, Heavy user



Actively rejected, barrier to use

Learning from other apps

The rail travel app could utilise and learn from functionality seen in other apps, such as:

- the rail travel app could become more knowledgeable about the user by looking at how other apps are used, for example Calendar, Google, Twitter, Facebook, and Google maps
- this way it could advise on regularly visited destinations, regular commutes or journey times, researched locations or warn about delays or disruption.

- actively rejected by the majority
- data security and the extent to which companies have access to private information is a very sensitive issue
- many would not entertain the idea of there being any benefits to this feature if it required personal information to be shared from other apps
- majority claim this would pose a significant barrier to download
- however, apps already have access to activity and data sources on the user's phone, and this would suggest that if framed carefully with a focus on privacy and benefits to user, this function may be less of a barrier than users claim.

"I don't like the fact that it's following you about, like everything else, Big Brother is watching you!"

London, Commuter, Non/light user

"I've got that many apps on my phone, and like I said, the ones that want your location and things, they just drain your battery so much, because obviously they're locating all the time."

London, Commuter, Non/light user

"It's the privacy. Yeah I don't like giving out information to help make things easier. I will go into the sites that I want to give my information to, to get the information that I want to come to me. I'm not prepared to have all my information out there."

London, Commuter, Non/light user

The requirements of a good app



Features of good apps

- There is no single answer as to what makes a good app.
- The following factors - on their own or combined - can be good pointers:

- User-friendly:** easy to use, clear, straightforward, easy to navigate
- Speed:** minimal loading, quick start-up, minimal taps
- Consistent:** across all platforms – web, phone, tablet
- Reliable:** performs when required, minimal failing
- Tailored:** to the customer and customisable by them
- Up to date:** regularly updated with new information or to fix bugs
- Unique:** does something that other apps don't
- Retention:** stores information and inputs from previous use
- Identity:** a strong brand or good PR



- The following are some of the apps praised by consumers and experts, with the features that made them stand out:



Uber: expert use of GPS functionality

Intuitive interface that allows the user to book a specific level of taxi to pick them up from their current location.

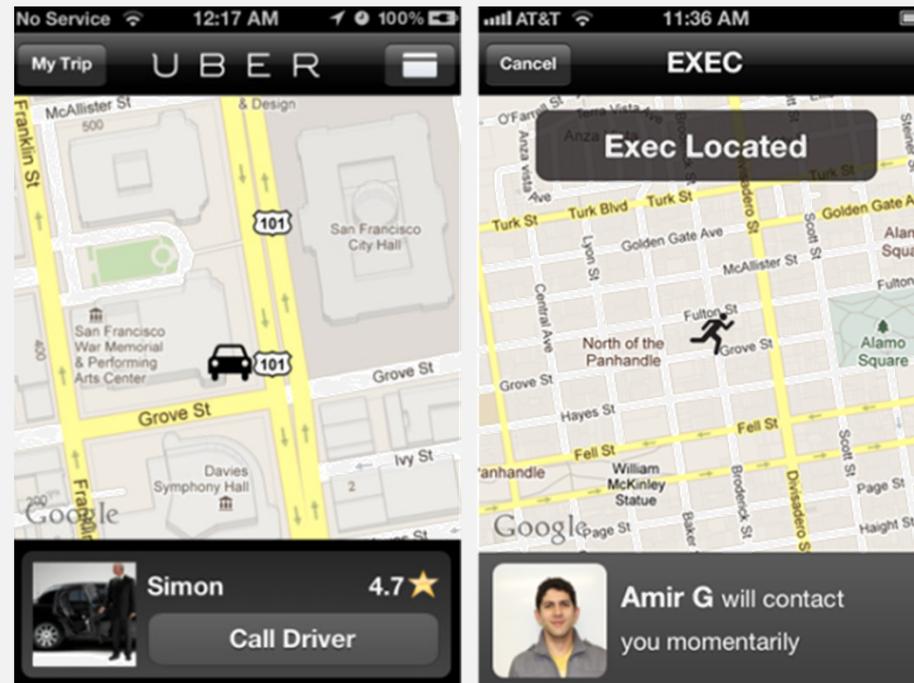
The app stores multiple payment options that can be categorised as business or personal. This speeds up the overall booking process.



Map interface allows users to confirm their own position via GPS, call a taxi and track the taxi all from the same screen.

The app has built in redundancy for reassurance and in case of problems. Drivers can be called to confirm pick up, etc.

Can split fares with friends/other riders.



*"They always feed you back your fare so you know what you will be paying and stuff and then obviously if you don't have cash with you, it loads your credit card on, you don't have to worry."
London, Commuter, Heavy user*

*"It's brilliant you get a picture of the driver. If I'm coming back on my own, call a taxi, here in two minutes."
Manchester, Commuter, Heavy user*



eBay: slick process from browsing through to paying

Purchasing process is quick and easy. Minimal taps from winning an item to purchase, with address and payment information retained from previous transactions. Links seamlessly with PayPal for faster payment.

Executes its primary function extremely well. All features are geared around making buying and selling items easier or more enjoyable.

Push notifications about watched items, bidding and selling are a source of excitement in themselves, keep the user ahead of the game and place the app top of mind amongst retail apps.

The app offers a complimentary but consistent experience to the desktop site. The app is geared towards use on the move and on a smaller screen, but retains the functionality of the desktop site.



"I'm always on eBay looking at things, and tracking things. Watch this and get a buzz out of bidding for it."
London, Leisure,
Heavy user

"If you go onto the web site, again there's so much information. With the apps it's so streamlined and simplified. That's just more efficient, you can do what you need to do a lot faster."
London, Commuter,
Heavy user

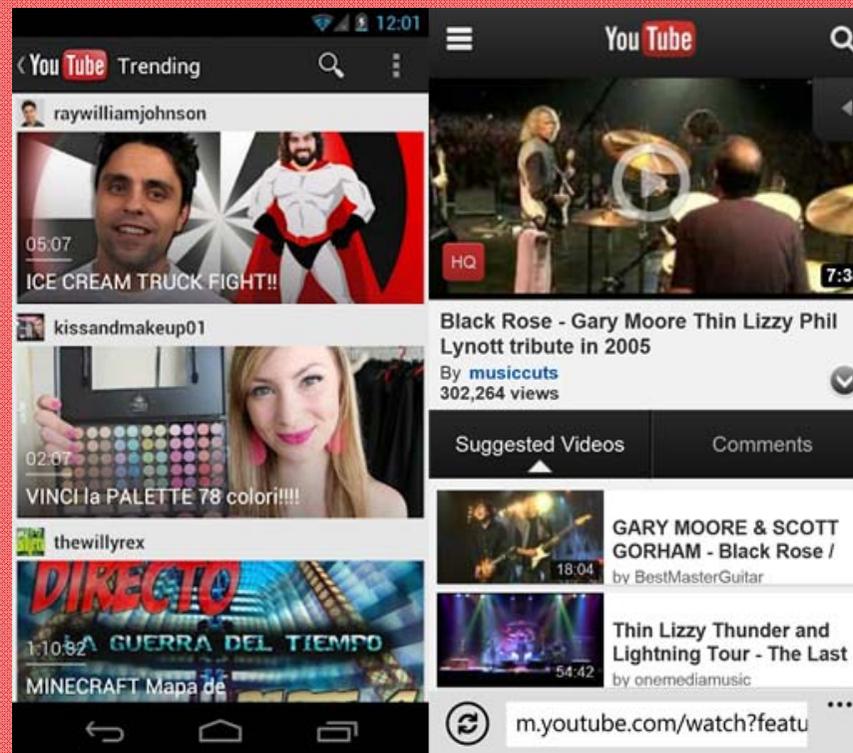


YouTube: seamless integration with social media

The dominant platform for video content on the web. Executes its primary function extremely well and offers a complimentary but consistent experience to the desktop site.

The app streamlines the process of getting video content via a mobile. Faster to load than the mobile site. Offers a full range of videos unlike other third party YouTube apps. Autocompletes search terms.

Built-in options to share links to videos via Facebook, Twitter, email and text. Integration with these apps creates a social experience from a solo activity.



"YouTube has an option to keep playing a video in the corner whilst you browse other things. It means I can listen to music videos whilst I'm on the internet."
Birmingham,
Commuter, Heavy user

"It's the app for watching videos on your phone. Everything you could possibly want to watch is on there."
Bristol, Commuter,
Heavy user



WhatsApp: multimedia speedy communication

A simple but flexible platform for all kinds of communication that do not count towards mobile users' contract limits.

Allows for instantaneous communication and sharing of most mediums – text, images, audio, video – setting it apart from other messaging formats like email, text or Facebook chat.

Flexibility makes it an ideal tool for social organisation – whether sending private messages or arranging groups' activities – in a simpler and more casual way than Facebook events.



*"I think it's more flexible in terms of you can put images and videos and voice recordings free which doesn't fit in with your contract."
Manchester, Commuter, Heavy user*

*"I can keep in touch with people all over the world and it doesn't cost me anything. I message my son in Australia."
Bristol, Leisure, Light user*



Excitement about apps

- The apps shown above generate excitement amongst respondents.
- As well as liking their ground-breaking functionality, users have a sense of emotional attachment towards these apps.

"My daughter was in Australia last year, she's 23, but we spoke every day on WhatsApp. Sometimes it's only a few words, but every single day she was on it. If someone is abroad it's absolutely brilliant and sometimes, even if I hadn't spoken to her, I could see she was online and that was good enough for me. I knew she was all right, that's all I wanted to know."

London, Leisure, Light user

"I'd have to say Skype or Facetime, that's made my life a lot easier. I've got a son in Dubai and he has a baby and it's lovely because I can Skype him or whatever and see that he is okay and how my granddaughter is getting on."

London, Leisure, Light user

- Some apps have revolutionised people's lives through innovation.
- It is unlikely that a rail app is ever going to be able to do this given the functional role they play in people's lives.
- So excitement towards rail apps is always likely to be limited, regardless of the innovations that come to fruition.

Summary and recommendations



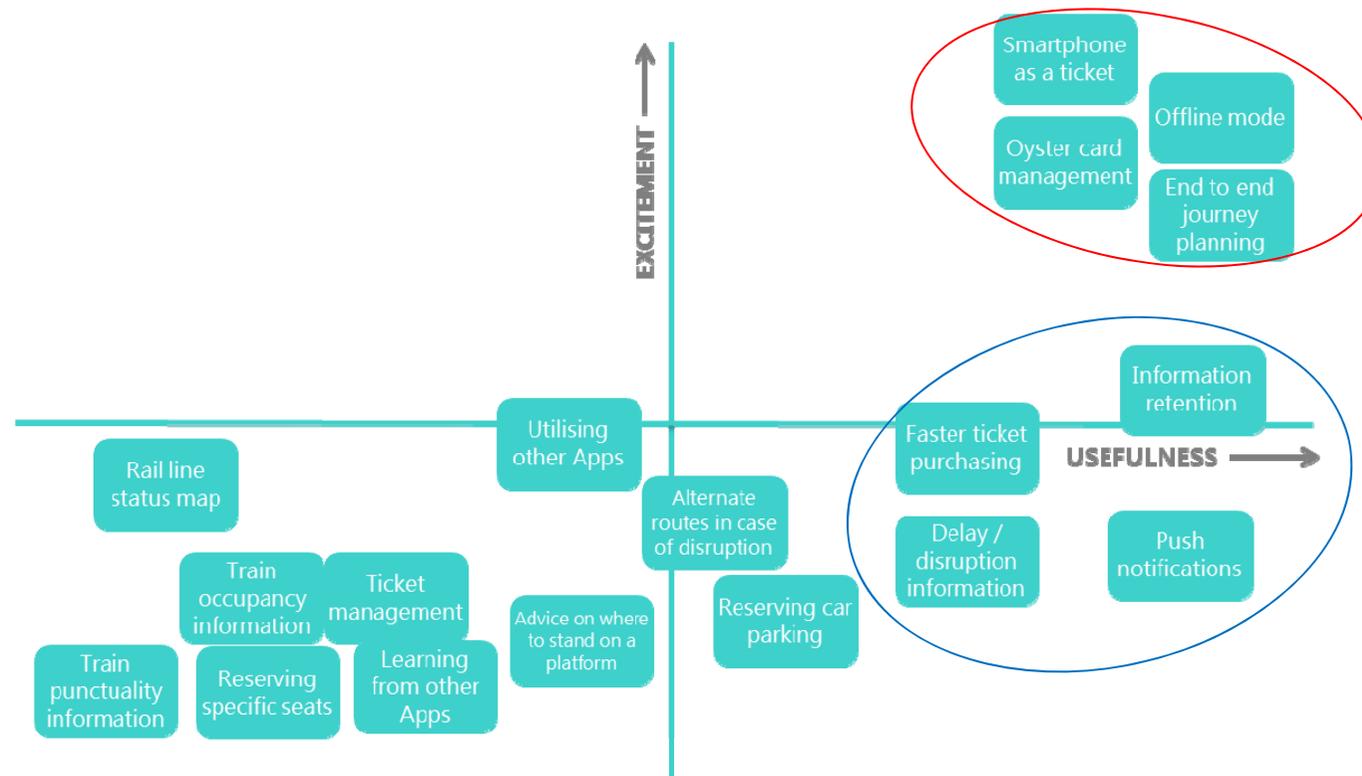
Summary

- Passengers are not unhappy with rail apps at the moment, so much underwhelmed.
- There is some frustration that they do not fulfil their potential. This is caused by their:
 - lack of functionality – passengers are unable to carry out tasks that they are used to doing in other apps
 - poor design.
- Passengers and experts can both point to improvements and innovations to train apps, and they have a shared vision of how apps could develop in terms of:
 - enhancing the user's experience
 - creating more functions for use through apps.
- The majority of the new ideas proposed exploit the unique selling point of rail apps: their usage 'on the go'
 - being able to complete tasks via features that are only available through rail apps is likely to increase usage.
- Passengers can see a use for the majority of new ideas proposed:
 - many developments are expected, but only a few create any excitement amongst users
 - it may be difficult to create significant excitement about rail apps given the functional role that they play
 - experts think many innovations will be held back by rail infrastructure and 'politics'.



Recommendations

- The blue 'ringed' innovations will be well received by passengers, but may not generate excitement due to expectations that these features should already exist.
- Focussing on developing the red 'ringed' innovations will create the highest degree of 'buzz' among passengers and may result in a change in perceptions towards rail apps.



Appendix



Group structure

MINI GROUP	LOCATION	PASSENGER TYPE	APP USAGE	DEMOGRAPHICS
1	London	Frequent commuter	Heavy users of apps and travel apps	Younger (18-40)
2	London	Frequent business/leisure	Heavy users of apps, but non users of travel apps	Older (40+)
3	Birmingham	Frequent commuter	Heavy users of apps, but non users of travel apps	Older (40+)
4	Birmingham	Frequent business/leisure	Heavy users of apps and travel apps	Younger (18-40)
5	Manchester	Frequent commuter	Heavy users of apps and travel apps	Older (40+)
6	Manchester	Frequent business/leisure	Heavy users of apps, but non users of travel apps	Younger (18-40)
7	Bristol	Frequent commuter	Heavy users of apps and travel apps	Younger (18-40)
8	Bristol	Frequent business/leisure	Heavy users of apps, but non users of travel apps	Older (40+)