



HS2 Customer Community

June Task:

**Accessibility – Equality, Diversity
& Inclusion**

August 2017

Accessibility – Toilet Design

Task 97, posted 30/07/2017

This month's task is on the topic of Equality, Diversity and Inclusion (EDI). One of HS2's goals is to build an accessible and inclusive railway and be an exemplar of EDI practice.

Here's a 2 minute video of an example where inclusive design based on a diversity of ideas has led to a solution in rail: <https://www.youtube.com/watch?v=P099SNVwPTo>

The attached document looks at some ideas for toilet designs that would be suitable for passengers with various accessibility needs. They are very much draft ideas at this stage and are open to your input and discussion.

HS2 would like to know:

What do you think/like/dislike? Do you have any further suggestions?

Task 1

Design Principles

- **Inclusive** – so everyone can use them safely, easily and with dignity
- **Responsive** – taking into account what people say they need and want
- **Flexible** – so different people can use them in different ways
- **Convenient** – so everyone can use them without too much effort or separation
- **Accommodating** – for all people, regardless of their age, gender, disability, faith or circumstances
- **Welcoming** – with no disabling barriers that might exclude some people
- **Realistic** – offering more than one solution to help balance everyone's needs and recognising that one solution may not work for all

Here are 7 principles to focus on when designing features.

Task 1:

Reviewing the 7 design principles:

- What are your thoughts?
- Does anything surprise you?
- Is anything missing?

Task 1: Reception to Design Principles

commitment
equality
inclusivity
excellent
essential
holistic
sensible
values
thorough
important
generic
comprehensive
great

“I think the design principles are comprehensive and inclusive. It's a fact you can't please everyone all the time, but I think with these principles considered, it pretty much covers all. I really cannot think of anything to add.”
– Female, 41-50, Leisure

“All 7 principles are good as they promote the key values you and I would like to engender in practical ways.”
– Male, 61-70, Business

Improvements

Feedback – opportunity for customers to provide feedback on design once it is in place

Transformative – constantly reviewing customers' needs to ensure you are meeting them



Task 2



There are various elements to think about when designing a train toilet that meets the accessibility needs of all potential passengers.

Task 2:

Imagine you are looking to use a toilet on the train and are one of the following:

1. A manual wheelchair user
2. A mother with a buggy, baby and young child
3. A blind man with a guide dog
4. An elderly person

The next pages describe some draft ideas of potential toilet features. Do you think they meet the needs of the 4 personas above? What else is needed?

Locating the toilet before the journey

- Integrating accessibility requests into an app was favourable.



- The Community thought that most passengers would already have access to the appropriate technology and have the HS2 app.
- Customisable – uses this to learn about the passenger's individual needs – prompts booking seats near facilities they might need.
- However, sceptical about 100% connectivity based upon the standards set by today's railways.

"I do wonder if hands would be on push/wheel chairs or holding elderly people's arms rather than on the device!"
– Female, 41-50, Leisure

"In the future, I am sure everyone will be computer literate at birth!"
– Female, 18-30, Commuter

"Hopefully 100% connectivity isn't too far away but I am currently sat on a fairly new train and I am struggling to keep a connection"
– Male, 18-30, Business

- Audio notifications were more controversial.



- Some could see the great benefits to passengers with visual impairments and thought it was an ideal solution.
- Others felt uncomfortable with the app announcing when the toilet was vacant and also were concerned it would disturb other passengers. They suggested a need for alternative notifications e.g. vibration useful for those with hearing impairments.

"Personally I wouldn't be too keen on a phone shouting out if the toilet is free or not."
– Female, 18-30, Commuter

Locating the toilet before the journey



- Once on the train, the Community saw it important that there were lots of physical aids to help passengers get to the toilet
 - Concern that the motion of the train will make frail passengers (such as an elderly person on their own) feel even more vulnerable.
 - Handles and parts of the interiors to hold on to when travelling through the carriage between seat and toilet.
 - Ensure that seating near accessible toilets is pre-bookable and that certain passengers get priority – there wasn't an expectation that accessible toilets would be in every carriage.



“Personally I would prefer a helpful attendant who can provide assistance in locating and explaining the facilities!”
– Male, 18-30, Business

- However, some thought that the needs of certain passengers requiring accessibility assistance would be best met by a member of staff.
 - They felt that there would be questions/concerns that technology would not be able to address

“Any audio and visual images are better than no clues. But it would still be possible to access help from the HS2 staff at hand if needed- that ensures care and attention of people before profits!”
– Male, 61-70, Business

Entrance



- All agreed that a wider corner-door entrance would be beneficial
 - Virgin train seen as current standard of excellence.
 - Suggestion of having 2 doors that open in different directions (i.e. outwards and inwards) to maximise entrance space
 - However, it was considered better to avoid outward opening doors as independent wheelchair users may struggle to reach them.

“These sound like good ideas, provided that they were at the appropriate height on the door for a wheelchair user.”

– Female, 70+, Leisure

- Automatic sensory door entry or touch sense entry button was favoured for addressing many accessibility needs.
 - E.g. Hands-free for dexterity issues, wheelchair user, carrying a child etc.
 - However, many were wary of automatic door locking/unlocking and do not trust the current technology.

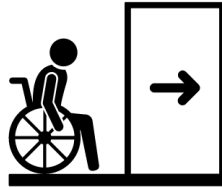


“Automatic door lock once occupied is a good idea for every type of passenger – as long as they always work properly when people want to exit the toilet!”

– Female, 70+, Leisure

Entrance

- Some highlighted the importance of there being plenty of space outside the entrance to ensure enough room for wheelchairs/buggies to wait.
 - They thought this would also be beneficial for those who might have someone with them assisting them.



“Perhaps the smartphone app is used to activate the toilet entry button. This might stop others who are able to use the regular toilet.”
– Female, 51-60, Business

- Suggestion that the app allows pax to ‘reserve’ the toilet for a short while to ensure that it does not become occupied in the time between leaving their seat and reaching the facilities.
 - The app is intelligent and utilises user data to identify accessibility requirement so grants special permission for this function.



Inside the Toilet



- Audio commands seen as beneficial and a great idea.
 - Amazon Alexa-type system whereby it is activated with certain keywords, therefore the user feels in control.
 - Make the features intuitive to use and have clear instructions!
 - However, consideration must be given to someone who is unable to speak, providing an alternative.

“Audio commands are a good idea but for pity's sake, teach it to cope with Scottish accents!”
– Female, 51-60, Leisure

“Genius idea, audio prompts would be great to give information to be able to navigate around the loo and all it's facilities, i.e. take one step forward and command lock to lock the door, or '2 steps forward is a hand rail on the left with the toilet pan beside it' or something, obviously in the natural order of use, maybe making it interactive so any user can speed up or slow down commands and requests as needed.”
– Female, 41-50, Leisure

- A much larger toilet was seen as desirable...
 - However, they didn't want larger toilets to result in a compromise on the total number on board.

“The fact that the toilet dimensions are larger than any current carriage toilet – twice the size! – would be a wonderful selling point for HS2 to demonstrate just how inclusive their train designs are, and I'm sure it would be welcomed by all wheelchair users.”
– Wheelchair user

Inside the Toilet



- Community members were pleased to see the inclusion of the emergency assistance alarm system as a priority.
 - They stated it should be possible to trigger both physically and verbally to aid any visually-impaired passengers.
 - Also have a call button on the outside of the toilet for wheelchair users who might need assistance.

“Emergency assistance alarm system: an essential, but placement of this should be carefully considered. I’m assuming the usual pull-cord?”
– Female, 51-60, Leisure

- They emphasised the importance of simple signage (to overcome potential language barriers) and the need for braille too.
- Some placed emphasis on not over-complicating features...

“A recent experience I had spinning around in circles trying to locate the door buttons, the flush, the sink, the soap, the dryer...”

In short, keep the design logical and use conventional design that people are familiar with. I can see that this is an opportunity for some non-conventional flares but, from an accessibility point of view, familiarity will make for a much simpler and more comfortable experience.”

– Male, 18-30, Business

Walls, Surfaces and Dimensions



- The elevating floor received mixed reactions.
 - Some thought that it would provide overall flexibility needed to address a range of accessibility issues. You could provide hand dryers/sinks etc. at different levels without needing to duplicate features.
 - However, some worried about how easy and intuitive it would be to operate. Suggestion of one button to reset after changes have been used.
 - They also commented on the need to simplify the current design of baby changing facilities as it is not user-friendly.

“Some consideration must be made regarding the person(s) who follows on from a previous user. Are there alterations that will have to be made to the environment in order for the next person to facilitate their expected function? For example a wheelchair user enters the space after a father has changed a child's nappy. The changing area is still 'down' interfering with the overall space. Will the next person be able to put the change area away easily so that the toilet can be accessed and the wheelchair can turn in the space? Will a visually impaired person be able to know that their way is blocked?”

– Female, 51-60, Leisure

“A personal plea: please stop combining baby-changing tables with accessible toilets. Far too often these are left in the down position, blocking space for any wheelchair and impossible for a wheelie to reach to fold up again.”

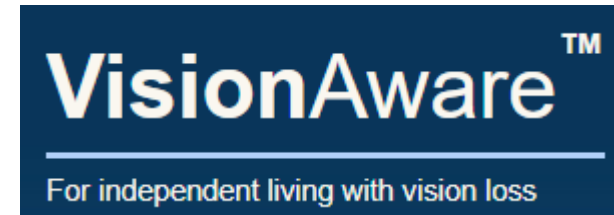
– Wheelchair user



Walls, Surfaces and Dimensions

- Colour-contrasting grab rails on white background needed.
 - However, a visually-impaired Community member disagreed with the suggestion of blue stating that the colour is too dark and camouflages features.
 - They recommended the standard yellow colour for the visually impaired as it is bright and stands out. They did also acknowledge that it is not the most visually appealing colour.
 - Suggestion to use information sources such as Visionaware.org

“A lot of these things are designed, reviewed and built by people that do not have ANY accessibility needs rather by those who live their daily lives with access needs.”
– Visually-impaired leisure traveller



- Some community members felt that there should be consideration given to having continuous flooring, avoiding any joins.
 - Also avoiding sharp edges was seen as essential to promote safety for all users.



“Having the right environment should keep dignity for the user in mind and also extend to animals like guide dogs.”
– Visually-impaired leisure traveller

Features

- The Community liked the idea of sensory features such as sensor taps and contrast lights for hot/cold.
 - Although there was suggestion that a single tap at a ‘safe’ temperature could provide simplicity.
- Hand rails seen as very important
 - ...on both sides of the toilet!
 - Also the flush feature must be in a considered location.
- Retractable wash basins provoked mixed reactions
 - Some thought that this was a fantastic way to create more space;
 - Others were concerned that it would add unnecessary complexity and wasn’t needed if the whole toilet was larger.
- There was an overall urge to ensure that any features are user-friendly and have specific useful purposes.

“Perhaps a musical function could be activated within the grab rails, so a blind passenger could orient themselves towards them.”

– Female, 70+, Leisure

“A retractable wash basin would be good... but how do you find it if you're blind?”

– Female, 18-30, Commuter

“Perhaps you are trying to cram too many features into one small space. At the moment it sounds as if the toilet is going to be a cross between a gym and a doctor’s surgery.”

– Male, 51-60, Business

“Sometimes things just need to be kept simple... the most innovative ideas are those that replicate current processes in a more effective manner.”

– Male, 18-30, Leisure

Summary and Conclusions

- The Community approved of many of the features detailed in the task and felt positive that HS2 intended on being all-inclusive.
 - They felt confident that HS2 would try to accommodate a wide range of accessibility requirements so it was a railway for all.
 - They also thought that it was very important that HS2 follows the 7 design principles.
- Some of the suggestions seemed overly complicated/without an obvious benefit to the user. They stated that customers want facilities that are easy and intuitive to use.
 - ‘Keep it simple!’
- However, many believed that the best way for HS2 to ‘get it right’ is by ensuring user-testing is conducted along the way **by the appropriate people**.
 - What might seem like a great idea to someone without any accessibility requirements can be completely inappropriate to someone it affects.

Overall, the Community were impressed with the level of attention that HS2 was giving to addressing such a diverse range of accessibility needs.