

Not representative but realistic?



[EPSRC]

AUNT-SUECONSORTIUM

TOWARDS A SUSTAINABLE URBAN ENVIRONMENT | URBAN DESIGN + TRANSPORT | THEME: SOCIAL INCLUSION

Joining it all together

- In making their travel decisions, passengers do not differentiate between the elements of the journey but on their perception of the whole journey
- HADRIAN has also been expanded beyond discrete interaction points to encompass the whole journey environment.

The Stress Factor

- A person who is capable of completing a journey can still be excluded
- A person's perception of a whole journey results from the interactions, environments and uncertainties that they experience within it
- All negative experiences contribute to a person's overall stress level
- If a person perceives a journey as stressful they may avoid travelling.

Making Wholes Journeys Inclusive

- Identify and design-out stressors from journeys.
 - HADRIAN Journey Stresstimator

- Reduce the risk of people being excluded due to uncertainty or misperception.
 - Inclusive Journey Planner (i-Journey)

Journey Stresstimator

- Virtually sends all 102 HADRIAN participants on a journey and measures their stress responses
- Identifies people for whom the whole journey is most stressful
- Identifies stressors that may be targeted for redesign
- Compares the inclusiveness of alternative routes.

Journey Stresstimator

- Journey Input

JSC Journey Input

Enter a journey name or reference: Test Journey

Add journey stages:

Walk

Less than 5 mins Add ->

5 to 10 mins Add ->

More than 10mins Add ->

Vehicles

Bus Add ->

Train Add ->

<- Remove Last Stage

1 Walk (Short)
2 Stop (Departure)
3 Bus
4 Walk (Short)
5 Interchange (Departure)
6 Train
7 Interchange (Change)
8 Train
9 Interchange (Arrival)
10 Walk (Medium)

Next >

Bus Editor | Stage 2

Access

Step

Ramp / level but narrow

Wide and level wheelchair access

Crowding

Crowded Standing space only

Normal

Empty or few passengers

On Bus Information

Audible stop announcements

Ticket Purchasing

From driver

None at this stage

Upkeep

Clean, tidy and good-as-new

Some litter or dirt

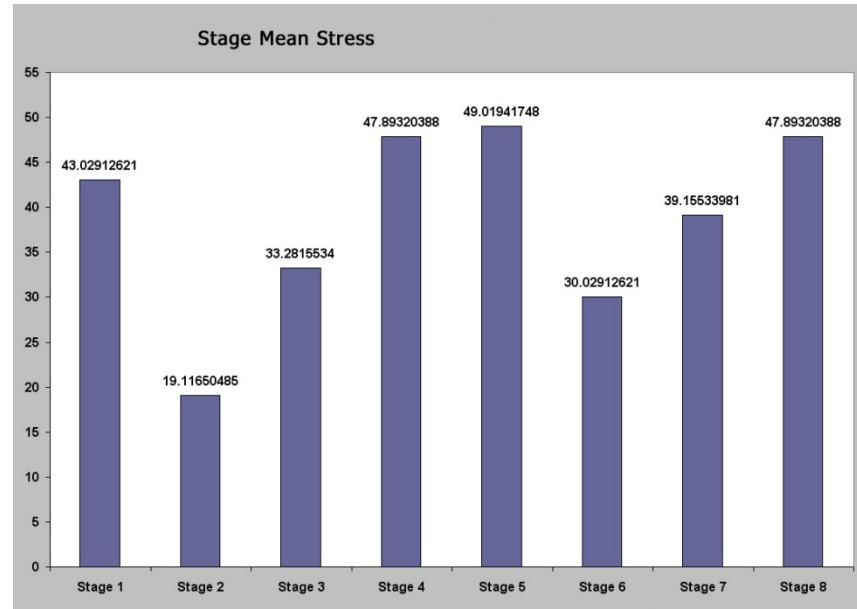
Signs of deterioration or vandalism

Next >

Journey Stresstimator

- Results

Stage Description	SCode	Stressor Description	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15	P16	P17	P18	P19	P20	
Walk	S40	Is this an inaccessible route?	4	4	4	4	16	8	8	8	16	16	4	4	4	4	4	4	4	4	4	4	8
Walk	S41	Will I arrive late?	4	0	4	4	8	16	16	8	16	8	4	4	4	4	4	4	4	4	4	4	4
Walk	S42	Will I be in any unpleasant environments?	4	4	4	4	4	4	4	4	4	4	16	8	4	4	16	4	4	4	4	4	4
Stop (Departure)	S5	Standing (not wheelchair users)	0	0	0	0	2	2	2	4	4	0	0	0	0	0	0	0	0	0	0	0	2
Stop (Departure)	S18	Identify Correct Vehicle	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Stop (Departure)	S20	Read Signs, Departure Boards and Screens	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Stop (Departure)	S21	Read Timetable/Map	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Stop (Departure)	S28	Noisy	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Stop (Departure)	S30	Temperature Too Low	1	1	1	2	2	4	4	1	2	4	1	1	1	4	1	4	1	4	1	1	2
Stop (Departure)	S31	Territorial	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stop (Departure)	S32	Uplieap	1	1	1	1	4	1	1	2	2	1	2	2	1	1	1	1	1	1	1	1	1
Stop (Departure)	S33	Lack of Shelter	0	0	2	1	0	1	1	4	0	0	0	0	0	0	0	0	0	0	0	2	0
Stop (Departure)	S39	Do I have the correctenough money?	1	1	1	1	4	1	1	4	2	4	1	1	1	1	1	1	1	1	1	1	1
Vehicle (Bus)	S2	Climb/Descend Kerb or Single Step	0	0	0	2	16	2	2	2	2	0	0	0	0	0	0	0	0	2	0	2	2
Vehicle (Bus)	S4	Get Luggage on Vehicle	1	0	1	2	4	2	4	2	4	2	1	1	1	2	1	1	2	1	1	1	2
Vehicle (Bus)	S10	Vehicle Use: Bus	1	0	1	1	4	2	2	2	4	2	2	1	1	1	1	1	0	1	0	1	2
Vehicle (Bus)	S11	Vehicle Use: Coach	1	0	1	1	8	1	1	1	1	1	1	1	1	1	1	0	1	0	1	2	1
Vehicle (Bus)	S15	Ask for Assistance	0	1	0	0	2	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Vehicle (Bus)	S17	Buy Ticket from Staff	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Vehicle (Bus)	S20	Read Signs, Departure Boards and Screens	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Vehicle (Bus)	S28	Noisy	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Vehicle (Bus)	S30	Temperature Too Low	1	1	1	2	2	4	4	1	2	4	1	1	1	4	1	4	1	4	1	1	2
Vehicle (Bus)	S31	Territorial	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle (Bus)	S35	Ride Instability	0	0	0	0	2	1	1	2	1	1	1	1	0	0	0	0	0	0	0	0	1
Vehicle (Bus)	S36	Seated Discomfort	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Vehicle (Bus)	S39	Do I have the correctenough money?	1	1	1	1	4	1	1	4	2	4	1	1	1	1	1	1	1	1	1	1	1
Vehicle (Bus)	S41	Will I arrive late?	1	0	1	1	2	4	4	2	4	2	1	1	1	1	1	1	1	1	1	1	1
Stop (Departure)	S5	Standing (not wheelchair users)	0	0	0	0	0	2	2	2	4	4	0	0	0	0	0	0	0	0	0	0	2
Stop (Departure)	S18	Identify Correct Vehicle	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Stop (Departure)	S20	Read Signs, Departure Boards and Screens	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Stop (Departure)	S21	Read Timetable/Map	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Stop (Departure)	S28	Noisy	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Stop (Departure)	S30	Temperature Too Low	1	1	1	2	2	4	4	1	2	4	1	1	1	4	1	4	1	4	1	1	2
Stop (Departure)	S31	Territorial	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stop (Departure)	S32	Uplieap	1	1	1	1	4	1	1	2	2	1	2	2	1	1	1	1	1	1	1	1	1
Stop (Departure)	S33	Lack of Shelter	0	0	2	1	0	1	1	4	0	0	0	0	0	0	0	0	0	0	0	2	0
Stop (Departure)	S39	Do I have the correctenough money?	1	1	1	1	4	1	1	4	2	4	1	1	1	1	1	1	1	1	1	1	1
Vehicle (Bus)	S2	Climb/Descend Kerb or Single Step	0	0	0	2	16	2	2	2	2	0	0	0	0	0	0	0	0	2	0	2	2
Vehicle (Bus)	S4	Get Luggage on Vehicle	1	0	1	2	4	2	4	2	4	2	1	1	1	2	1	1	2	1	1	1	2
Vehicle (Bus)	S10	Vehicle Use: Bus	1	0	1	1	4	2	2	2	4	2	2	1	1	1	1	1	0	1	0	1	2
Vehicle (Bus)	S11	Vehicle Use: Coach	1	0	1	1	8	1	1	1	1	1	1	1	1	1	1	0	1	0	1	2	1
Vehicle (Bus)	S15	Ask for Assistance	0	1	0	0	2	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Vehicle (Bus)	S17	Buy Ticket from Staff	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Vehicle (Bus)	S20	Read Signs, Departure Boards and Screens	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Vehicle (Bus)	S28	Noisy	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Vehicle (Bus)	S30	Temperature Too Low	1	1	1	2	2	4	4	1	2	4	1	1	1	4	1	4	1	4	1	1	2
Vehicle (Bus)	S31	Territorial	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle (Bus)	S35	Ride Instability	0	0	0	0	2	1	1	2	1	1	1	1	0	0	0	0	0	0	0	0	1



i-Journey

- Reduce transport exclusion caused by uncertainty and misperception before travel by providing:
 - Optimised Personalisation
 - Genuine Journey Choice
 - Rich Journey Plans

i-Journey: Optimised Personalisation

- A small range of essential settings:

The screenshot shows the 'AUNT-SUE i-Journey' settings page. At the top, there are navigation buttons for 'Help', 'Sign Up', and 'Log in'. The main content is organized into three sections: 'Where?', 'When?', and 'How?'. The 'Where?' section has a 'From: SE3 7DR' and 'To: The British Museum' with an 'Edit' button. The 'When?' section has 'Depart after 11:45' and '4 June 2009' with an 'Edit' button. The 'How?' section contains several settings: 'Changes: Allow at least 2 minutes at changes.' with a dropdown menu; 'Walking: My walking speed is: Very Slow, Slow, Normal' with radio buttons; 'Accessibility: I need a wheelchair accessible journey.' with a checkbox; 'I prefer to avoid: Steps, Escalators' with checkboxes; and 'I prefer to avoid areas that are: Crowded, Quiet or Empty' with checkboxes. There is an 'OK' button at the bottom of the 'How?' section and a 'Save these settings.' checkbox to the right. A 'Find Journey Options >' button is located at the bottom of the main content area.

i-Journey: Genuine Journey Choice

- A short list of genuinely alternative, suitable routes:

The screenshot displays the AUNT-SUE i-Journey interface. At the top, it shows the origin 'From: SE3 7DR' and destination 'To: The British Museum', with a departure time of 'Depart after 11:45 Thursday 13 January 2010'. Below this, it lists 'Your best 3 journey options' with icons for bus, train, tube, and walking. The first option is a bus and train route (1 hr 6 min, £3.60*, 28 min walking). The second is a bus route (2 hr 14 min, £2.40*, 8 min walking). The third is a bus, tube, and bus route (1 hr 20 min, £4.80*, 15 min walking). At the bottom, there is an 'Edit your journey options' section with checkboxes for Bus, Train, Tube, Level Access, Coach, Tram, and Ferry, and an 'Update Options' button.

AUNT-SUE i-Journey [Sign up](#) [Log in](#) [Help](#)

From: SE3 7DR
To: The British Museum
Depart after 11:45
Thursday 13 January 2010 [< Back](#)

Your best 3 journey options:

Route	Duration	Price	Walking Time	Accessibility	Action
Bus & Train	1 hr 6 min	£3.60*	28 min of walking	Stairs, Luggage	View
Bus	2 hr 14 min	£2.40*	8 min of walking	Wheelchair	View
Bus, Tube & Bus	1 hr 20 min	£4.80*	15 min of walking	Stairs, Luggage	View

Edit your journey options:

<input checked="" type="checkbox"/> Bus	<input checked="" type="checkbox"/> Train	<input checked="" type="checkbox"/> Tube	<input type="checkbox"/> Level Access
<input checked="" type="checkbox"/> Coach	<input checked="" type="checkbox"/> Tram	<input checked="" type="checkbox"/> Ferry	

[Update Options](#)

i-Journey: Rich Journey Plans

- Enough information without overwhelming the user:

The screenshot displays the 'AUNT-SUE i-Journey' interface. At the top, it shows the origin 'SE3 7DR' and destination 'The British Museum', with a departure time of 'Thursday 13 January 2010' after 11:45. The interface offers 'Sign up', 'Log in', and 'Help' options. Below the route summary, it lists 'Your best 3 journey options'. The selected option is a 1 hr 6 min journey for £3.60* with 28 min of walking. The route is detailed as follows:

Event	Time	Location / Mode	Duration	Notes
Depart	11:47	SE3 7DR	3 min (walking)	
Arrive	11:50	Tudor Grange Bus Stop BP		Quiet
Depart	11:52	Tudor Grange Bus Stop BP	12 min (bus)	Route 386 towards Royal Parade
Arrive	12:04	Greenwich Rail Station		Quiet
Depart	12:10	Greenwich Rail Station	18 min (train)	Southeastern towards Charing Cross
Arrive	12:28	Charing Cross		Crowded
Depart	12:28	Charing Cross	25 min (walking)	
Arrive	12:53	The British Museum		







i-Journey Design Guide

- Provides the rationale behind the design of the i-Journey.








AUNT-SUE iJourney Design Guide - Rules for more inclusive internet journey planners

1. Optimised Personalisation		2. Genuine Journey Choice		3. Rich Journey Plans	
Content	Presentation	Content	Presentation	Content	Presentation

Your best 3 journey options:

	1 hr 6 min	£3.60*	28 min of walking		View
	2 hr 14 min	£2.40*	8 min of walking		View
	1 hr 20 min	£4.80*	15 min of walking		View

Edit your journey options:

 <input checked="" type="checkbox"/> Bus	 <input checked="" type="checkbox"/> Train	 <input checked="" type="checkbox"/> Tube	 <input type="checkbox"/> Level Access
 <input checked="" type="checkbox"/> Coach	 <input checked="" type="checkbox"/> Tram	 <input checked="" type="checkbox"/> Ferry	Update Options

2.2 Genuine Journey Choice Presentation

2.2.1 **Each journey option should be represented by the vehicles in that journey.** This will define the journey for the user and they will understand how many changes are involved. Stating the number of changes numerically is always open to misinterpretation.

2.2.2 **The graphical representation of the journey should not include walking, except where the whole journey is a walk.** This is consistent with how people think of journeys (i.e. walking is assumed). Walks will be fully represented in the actual journey plan.

Summary

- Designers are disadvantageded in achieving truly accessible designs by poor practice, data and availability of tools
- HADRIAN has been developed to provide support and address some of these issues
- The ability to assess the physical accessibility and accommodation of a design concept during the early stages of design is a real benefit.

Summary

- However, the ability to investigate, physical, cognitive and emotional issues throughout a whole journey is a key step forward:
 - Transport practitioners: in establishing accessibility in transport systems and the ability to evaluate how accessible a planned change may be
 - To travellers: in evaluating the accessibility of a range of journey options prior to travel.



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