

DEPARTMENT OF CIVIL, ENVIRONMENTAL
& GEOMATIC ENGINEERING

CENTRE FOR TRANSPORT STUDIES



UCL

PEARL

Person-Environment-Activity
Research Laboratory



COMMUNITIES

The What, Why & How of PEARL

What is PEARL?

PEARL (Person-Environment-Activity Research Laboratory) is a unique facility to explore the ways in which people interact with their environment. It is a massive space – around 4,000m² and 10m high – in which we can create life-sized environments – a railway station, high street, town square – under controlled conditions, so that we can examine how people interact with the environment and other people in these types of places. We can change the profile, type and material of the floor, simulate lighting of any colour and intensity, create sound from the tiniest bird song to the most massive explosion, include other senses, such as smell, and much more.

Why PEARL?

Much of our understanding about how cities work is based on a lot of assumptions about how people respond to, use and act in the environment. Many of these assumptions are based on experience over many years and are valid in general, but often the models we use just don't represent what actually happens. PEARL enables us to study in detail how people actually interact with the environment and each other, by enabling us to test detailed differences in the environment – such as space, colour, lighting, sound – under controlled conditions, so that we can obtain rich data for use in the design of real urban systems.

How can we use PEARL?

PEARL allows the public, researchers, regulators, implementers and others to see, hear, smell, feel and try out for themselves what operation and design ideas would be like, so cutting the cost of trying out new ideas by testing them in the laboratory before trialling them for real on-street. We can help designers work out how people will respond to their designs, for example, of trains. Sometimes we need to instrument people with sophisticated systems, such as eye trackers, accelerometers and motion detection systems, so that we can track how they move around the environment.

A Range of Community Projects

Some examples of our work

Improving footway surfaces

We are trying out different kinds of surface for the pavements we walk on in our town centres. This example is based on the design used for the running track in the London Olympics. This is a little softer than the usual concrete surface and much more comfortable to walk on. It is less likely to hurt or cause injury if you are unlucky enough to fall on it, but it could also help to reduce the chances of falling in any case.



Figure 1. Testing walking on different materials in the laboratory



Figure 2. Testing walking on proposed material in the real world

Public participation in infrastructure design

We collaborate with organisations such as Transport for London to engage the public in the future design of a city's public infrastructure. This interactive bus stop was part of the annual Summer Streets festival in central London which asked the public to propose what they would like their bus stop to be.



Figure 3. Designing your own bus stop - what could it be?

How PEARL helps Communities

Engaging Communities

PEARL can help reach all members of your community through interactive urban interventions and public participatory workshops.

Everyone is Welcome

Local residents are welcome to come and chat with the PEARL team about the challenges they face when moving around the urban environment – so that we can learn about these and include them in our research programmes. The community can become involved in the research programme and its experiments.

Designing Places for People

PEARL can help with the design of urban infrastructure – streets, trains, stations, public spaces etc. - to make it work better for all members of the community, from small children to the elderly.

Leading Innovative Education

PEARL can provide an exciting insight into engineering and research for schools, informing class-room and extra-curricular activities such as after-school clubs and Saturday schools.

Inspiring Community Arts Projects

PEARL offers a fully-equipped performance/rehearsal space for your next community arts project, whether theatrical, musical or dance.

The possibilities are endless...

Community is at the heart of PEARL, so if you have anything from an unheard complaint you think we may be able to assist with, or an exciting new idea on how to solve it, get in touch!



Connect with PEARL

www.pearl.place

