

# Making city infrastructure work

Nick Tyler CBE FREng  
Centre for Transport Studies  
University College London  
UK

**We tend to think that transport  
systems are there to support  
economic wealth**

Climate catastrophe  
is  
Human catastrophe

**This is about city  
infrastructure and  
how it relates to  
people**

City location can be independent of the means to support it : therefore it is highly dependent on infrastructure

**We have developed infrastructure  
to support the artificial sustenance  
of human life: e.g. delivery chains**

**Infrastructure separates people from  
the consequences of their demand**

**Then we create infrastructure  
to support infrastructure**



**We have an unsustainable system based on historical decisions made by humans around the world – which we now consider to be a legacy**

**Cities are no different!**

**Trains => linear expansion**

Cars => area expansion

**But cities are all about people**

**Energy is not limitless**

**Emissions are making people  
mentally and physically unwell  
– and killing them**

Core energy need of  
humans is not  
significantly different  
now from what it was  
100,000 years ago



*Homo sapiens* is a social species

**“Species” means everyone**

# 150

The number of people with whom one can maintain stable social relationships

# 5

The number of people in a person's 'inner circle'

# 3

The number of people a person can converse with at the same time

# The need for 'absent ties'

# 1

The number of unknown people a person can greet casually at a time

People will need to be truly social  
to improve their quality of life



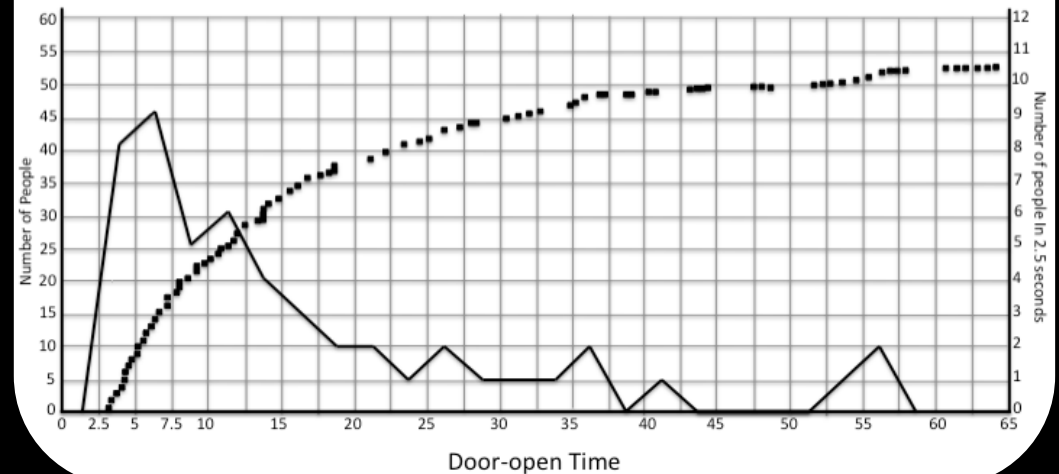
**What does this mean for infrastructure?**

**Macro-scale crowd effects  
are driven by micro-scale  
personal reactions to the  
constantly changing situation**

# Infrastructure capacity



New Tube for London experiment at PAMELA



Boarding flow rate

Design infrastructure for people

# Design infrastructure for sociality

Create spaces for people to converse

**Create spaces for physical  
and mental wellbeing**

**Big cities = lots of small localities**



**Cities are people – they need  
small spaces in which to converse**

**To make cities work, we need to think  
about connectivity rather than size**

Roads are necessary for connectivity,  
but they are not sufficient: they need  
to be designed for people, not vehicles

... so more of the same is not enough:

Left to their own devices, cities create  
damage rather than health

**To make cities work, we need to think  
about connectivity rather than size**

**Cities must work with the  
environment, not in spite of it:**

**Road infrastructure is necessary but  
not sufficient for human survival**

# Person-Environment-Activity Research Laboratory

- Fully instrumented life-sized fully configurable physical and sensorial environments
- Study neurological, psychological, physiological, cognitive, sensorial and physical reactions to situations within the urban environment
- To help design the next generation city infrastructure



PEARL is a 40,000m<sup>3</sup> space for studying multiscale multisensory multifunctional people-environment interactions in detailed naturalistic contexts to make the world better for everyone

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# Thanks!

[n.tyler@ucl.ac.uk](mailto:n.tyler@ucl.ac.uk)