David Milner of Create Streets - Density and Beauty.

David Milner is a Project Director and Urban Designer at the remarkable Create Streets and is currently managing and working on a wide range of community-led developments, and local government consultation projects.

Previously having spent six years as an officer and pilot in the Royal Air Force. David has a Master of Engineering from Oxford University and a level 5 Diploma from the Institute of Leadership and Management. He is also a member of the Academy of Urbanism.

Create Streets was set up in 2013 by Nicholas Boys Smith, recently Joint chair of the Building Better Building Beautiful Commission which looks set to influence National Planning policy in coming years.

Create Streets conducts ground-breaking research into associations between different types of building and popularity, wellbeing, long term economic value and density - their stated goal "to make it easier to build high density, beautiful, street-based economically successful developments, that have strong local support and which residents will love for generations"

What is Create Streets, what we do and why we do it

What I would like to talk about is a very quick overview of what Create Streets is and has been doing, and how that can help you in Bristol and help you think about alternatives to delivering the housing that everybody knows we need, in terms of the housing crisis, and also in regards to sustainability as well.

There is a revolution in urban information underway. This permits us to talk with increasing confidence about what is 'good' urban design. We do a lot of research mainly focussed on the evidence base and using concept analysis. I think one of the main things is that when it was first set up, there was this utter dearth of data. There is so much data used elsewhere in the world, but for some reason when we look at buildings, we just find an architect who has done 7 years and say, they know what they are doing, let them crack on.

We have also started now using that data to do urban design. We do that with communities, we do that with landowners and increasingly

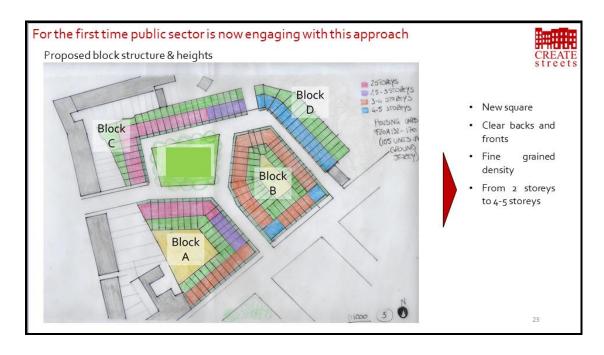
with Councils. We try and influence at the top as well, forging relationships with government, councils, policy makers, to try to take the lessons that we have learned from the community and also from our research projects.

We do some co-design events: I have put this one in. This was work for a council in the Midlands. They had two towers which basically were totally unviable, they were dangerous, everyone had been moved out. But they didn't believe there was another way of delivering the same number of affordable homes.





The aspiration was for it to be 100% social rent. So we did a quick sketch in the office, worked with the community, started to bring it to life, trying to find something that fits in with the surrounding neighbourhood rather than it being a stand-alone block which would turn its back on the neighbourhood.



That brief went off and an architect delivered this back so we're starting to see that actually you can achieve this.



And councils are really starting to be very progressive. You only have to look at Norwich, in Goldsmiths Street, to see people re-learning the idea of building streets.

We are also trying to push back on the guidance. Here, if you tried to build this street now, it would be illegal due to the light rules and overlooking rules.

Light and urban form



If we apply the guidance...

The importance of data.

Here is a plea to use data from David Halpern, who you might know from the Nudge Unit. He realised in 1987 that no-one was using data in the built environment, and no-one is looking at the link between what is being built and happiness. We have people like Jane Jacobs, pioneers of urban design, and Jan Gehl, but no-one has actually used the studies that are out there.

"architecture and planning does not have an empirical, evidence-based tradition in the sense that psychologists or the ... sciences would understand.

There are very few studies that ever go back to look at whether one type of dwelling or another, or one type of office or another, has a systematic impact on how people behave, or feel, or interact with one another"

David Halpern, Director of Behavioural Insight Unit, Cabinet Office

Now for some audience participation!

What proportion of your health do we think would be derived from your environment? If we get everyone to raise their hand and go from 100%: I am going to count down, and I want you to put your hand down when you think that is the correct number.

So: 90%? 80%? 70%? 60? 50? 40? 30? 20? - Ok so, we have gone down at 20%.

The answer from one bit of research is 40%.



Definitely a lot more research needs to go into that, and it is obviously a broad topic. But I don't think people quite comprehend the vast influence of what is built around you, or that what is built has such an impact on your health.

Don't be fooled by what developers tell you

We can be very unpopular with developers, because we ask people to look at the reality, not the words that they use.

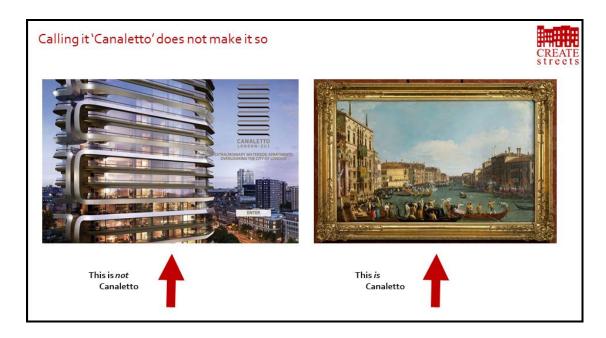
This is "Leisure Gardens" - but that is absolutely not a garden!



Calling it a village does not make it a village.... I grew up in a village.



And calling it a Canaletto does not make it a Canaletto:

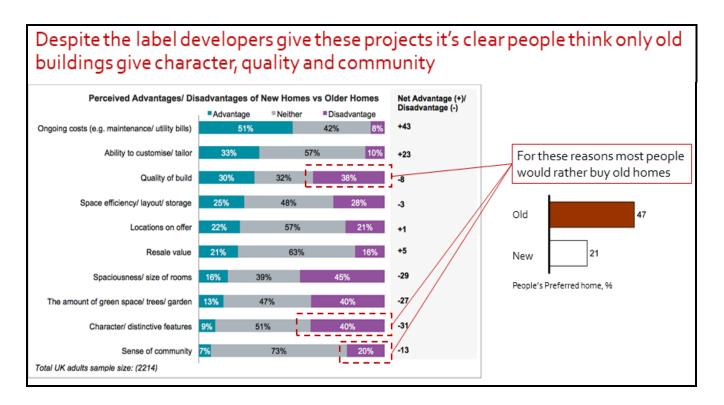


Why are old buildings preferred? Does it have to be this way?

It is clear from the recent research that we did that people think you can only get key values such as the quality of the build, the character of the build, the sense of community, from old buildings, but it shouldn't be that way! We need to start trying to move away from this.

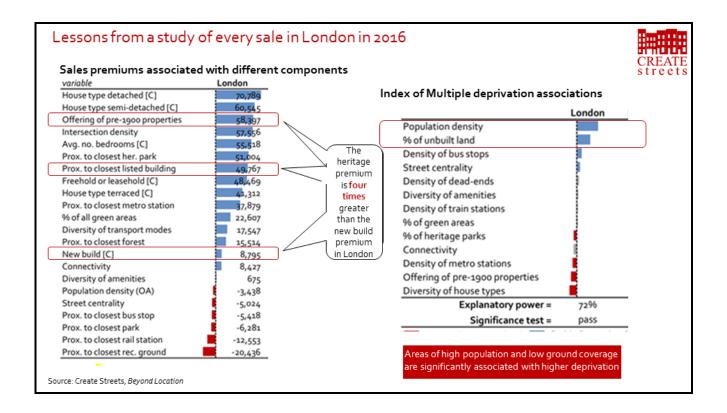
And sometimes we get people saying: "You are just trying to put traditional buildings out there, because that is what you like", but what we are trying to say is, we like a lot of the characteristics of traditional

buildings, like the street patterns. It is just that a lot of new stuff more or less since the invention of the motor car doesn't have those characteristics.



We have found (for instance) that the heritage premium is 4x greater than the newbuild premium - you often hear people say: "It is new, so it is 25% more in value", but actually people really do want to live in these heritage buildings, and that is, again, linked to the characteristics that they would have, the streets, and the communities that they often can help to forge.

There is quite an interesting piece of data on the right about the link between population density and the index of multiple deprivation and the percentage of unbuilt land.



More data: too much green space? One-way streets?

We have quite a high percentage of unbuilt land. Sometimes there is green space which quite naturally people would want, but actually it can be linked with quite a lot of crime as well and quite a lot of deprivation, where you have potentially really a small footprint, with a tower or something else.

Some more research that we looked at, an American study in 2016: one-way streets are associated with high speeds, more accidents: you can see that collisions dropped by 36% and 60% when they went from one-way streets to two-way streets. And also the values, so if we ever speak to high streets and retailers we always encourage them, if you have got a fast one-way street, if you can change that to two way, it slows the speeds of the cars down naturally, it allows people to actually cross the streets. My friend who was walking around Bristol said he was waiting about 10 minutes trying to cross some streets because in some areas you have these really fast one-way streets.

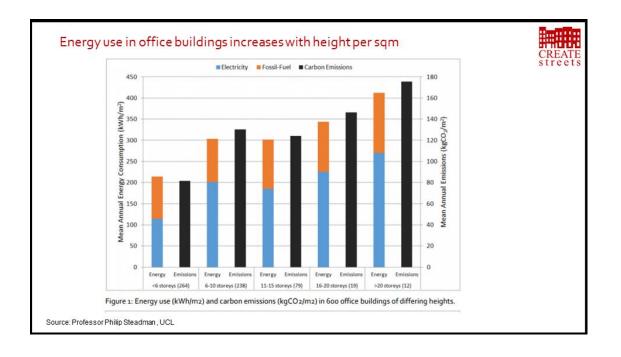


Some data on tall buildings

Big buildings are not always cheap to run. The Barbican estate in London, we found a service charge of £8,000 a year - 11% of that is to wash the windows.



You might have seen this slide which I have shamelessly stolen from Professor Steadman. I think we have gone into this enough, so I will skip over that...



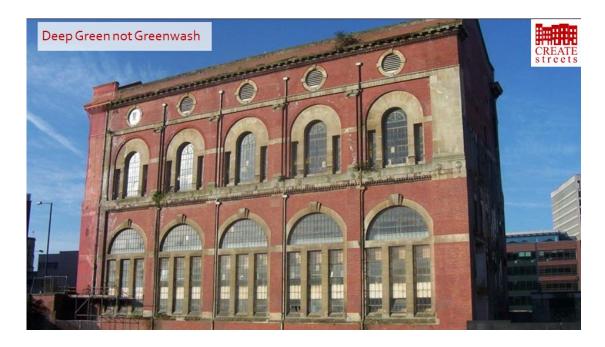
The importance of beauty

Now let us bring this talk back to that quality of beauty, which is an issue which is not talked about enough.

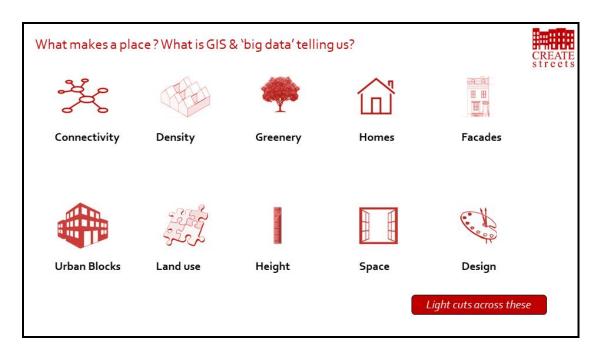
We are starting to think about deep green. If you want to know how green a building is, you need to look at its lifetime, and how far out this building is going to be able to be used. So the red telephone box - we know how long some of those have been used for, they are really cherished, partly because they are adaptable, but also because they are beautiful, people want to protect them. I don't think the telephone box on the right is going to be around for as long as the one on the left.



This is a power station. This is the kind of building that people now really want to take on and convert. re-use as office space, new homes, mixed use, whatever. We are seeing this a lot with the mills in the north-west and north-east.



When we look at the data on good places we try to break it down to 10 different factors that we think are important:



When we look at greenery, so the point here is that greenery is good but not always and everywhere good.

Green is good for you when you get to use it



Green is good...

- Famous study by Ulrich, showed patients recover better with view of natural scene.
- 9 studies correlate vegetation with lower levels of crime & expected crime.
- Communal gardens & actually gardening can be associated with greater wellbeing.
- View of greenery gives 5-30% more value.
- Street tree's lead to a reduction in speed.
- Trees improve air quality and both mental and physical health.

...except when it isn't

- 8 studies that associate denser vegetation with more fear of crime. One study does correlate with higher crime.
- Beyond 2-3 blocks people visit parks far less. (US)
- Focus groups suggest preference for personal space vs communal.
- Health correlates most with scenicness (sic) rather than greenery.
- Consideration must be given to relationship with rest of built environment.

Answer is: Little Often & Cost-effective to manage

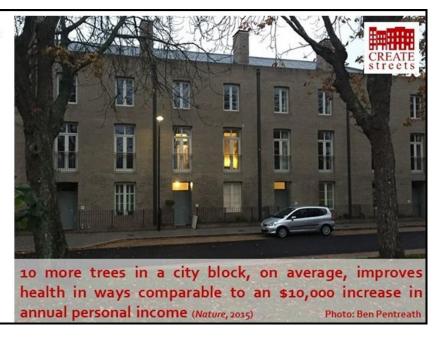
That is not ground-breaking. There is the famous Dutch study of hospital patients, they recover faster if they have a view of greenery, with higher levels of happiness. There is also studies with communal gardens with increasing well-being and street trees leading to a reduction in speed.

However you don't just have the green space, tick that box, and that is going to make it good, you actually have to work for it, you have to make sure it is the right kind of green, that it is the right size and it is used in the right way. Dense vegetation can lead to more fear of crime, if you have a park which doesn't have clear ways out and clear exits, people aren't going to walk down it, they are more likely to use their car.

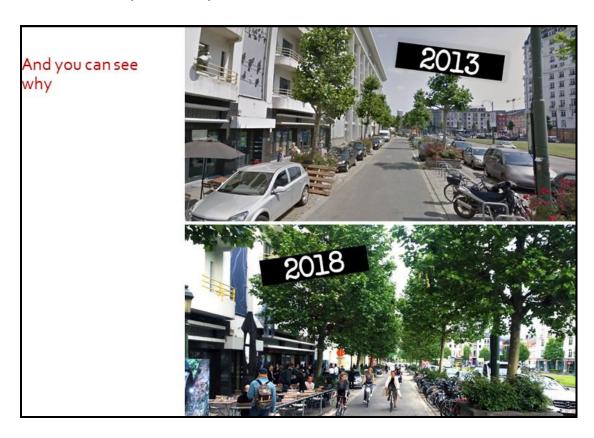
The data on street trees is very robust, simply - street trees are good. Grow more, don't cut them down unless you absolutely have to. they can increase value in houses (which is obviously showing there is a demand for them as well).



Data on street trees is particularly robust...



And you don't really need to explain why - you can see it for yourself, how much they can really enhance an environment.



Interestingly, views of water tend to bring the most value, especially if it is views over the sea:



Suburbs and the problem of density

So flicking back to how we live and where we live - you can be forgiven for thinking that everyone is very anti-suburb.







- It's fashionable to be rude about suburbs but people <u>ARE</u> rational in liking them
- 61% 75% preference detached homes (2013 Europe wide survey)
- (9 out of 14 studies houses vs. flats)
- Space, personal greenery (one of two OECD housing metrics)
- Lots of data says that people can be happier

They can be very good, they can work very well for some people - 65%-75% of people in a survey preferred them. 9 out of 14 surveys preferred houses versus flats, they give you the space, they give you personal greenery, and people can be happier if you just look at the buildings in isolation.



- · Land use & sustainability
- In US car crashes in suburbs 4 times per head
- Drive 3 times as much
- Doubling neighbourhood density reduces traffic accidents by 5%
- Car commutes aligned to blood pressure & frustration
- Swedish study commuting over 45 mins & 40% more likely to get divorced
- Top 10 happiest nations have commutes under global average

There is a great comic drawing I think from Leon Krier, of cars being fired out of a cannon from the suburbs into the city.

People often think if we build more stuff in the centre, really high, roads are going to be gridlocked and we won't be able to move, there will be pollution. Actually if you then push all those out to the suburbs, the increase in cars is higher than it would be if they were built in the centre. because those people can't walk, they can't hop on a bus as easily, they have to drive in, and they are less likely to use a park and ride if it is slightly less convenient. A book that I definitely recommend reading is "Happy Cities" by Charles Montgomery. If there is one thing you could do for your happiness level, more than anything else, is to cut your commute down. The ten happiest nations apparently commutes under the global average.

More data: happiness and high rises

Another piece of research is that living in big blocks tends not to be as good for you.

Satisfaction: 92% of the 12 studies show that satisfaction was lower when you live in a big block. There's higher rates of depression, serious mental health issues, suicide. It is a lot harder to raise children.

Towers - this might be controversial for the audience - towers can be good. They can work for some people, they tend to be relatively high earning, single or young professional couples who are childless. But I don't think you want to have that as your whole neighbourhood.

We found a mixture, an intergenerational mixture of families and single people works better for community, and quite frankly [in big blocks] you just tend to know less of your neighbours and you don't tend to have the community sense that you would in other types of living arrangement.

Living in very big blocks tends not to be good for you...

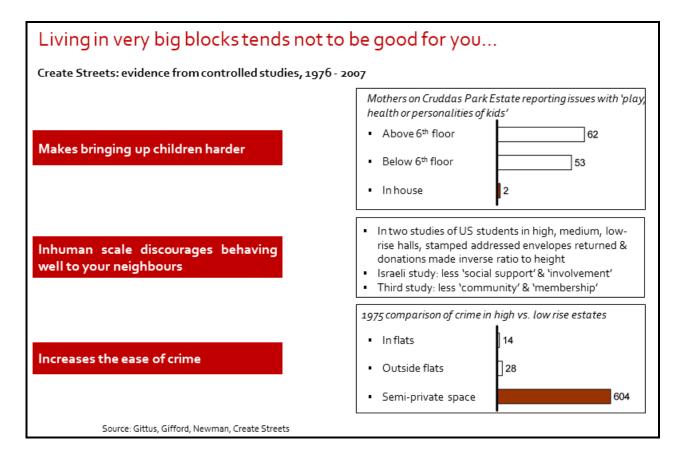
Create Streets: evidence from controlled studies, 1962 - 2007

Association	Total number of studies	% showing high rise 'bad'	% showing no link	% showing high rise 'good'
Satisfaction with home	12	92%	0%	8%
Levels of mental strain, crowing, stress, optimism	19	66%	21%	11%
Depression and more serious mental health	5	100%	0%	0%
Suicide	4	50%	50%	0%
Behavioural problems for children	5	80%	20%	0%
Levels of crime	6	50%	50%	0%
Fear of crime	2	50%	0%	50%
Pro or anti-social behaviour	5	100%	0%	0%
Levels of social engagement and social capital	16	75%	13%	13%
Children's' progress in high- rise	11	91%	9%	0%
Total	85	78%	12%	11%

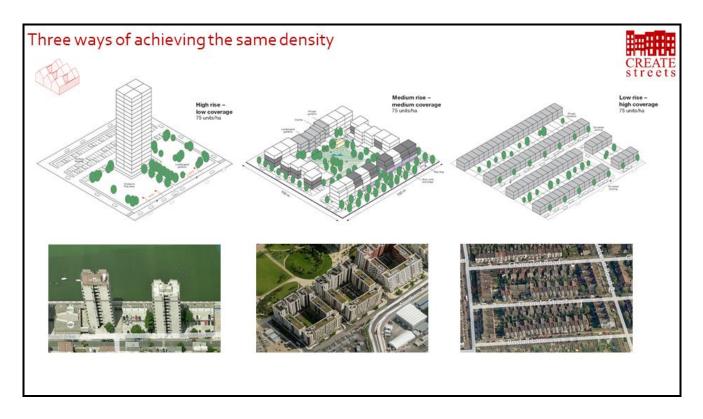
Vancouver high rise residents ...

- Less likely than those living in detached homes to know their neighbours' names - 56% to 81%
- Less likely to have done them a favour 23% to 48%
- Less likely to trust them 40% to 60%
- Less likely to believe that their wallet would be returned if lost locally - 55% to 68%

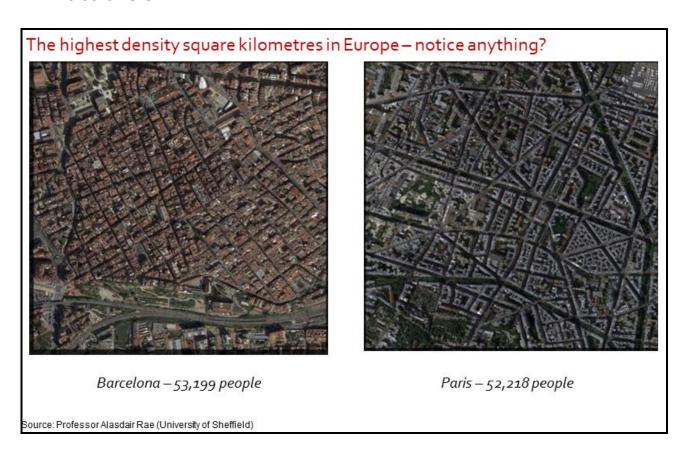
So here is a point about [big blocks] making bringing up children harder...the split between above the 6th and below the 6th floor,



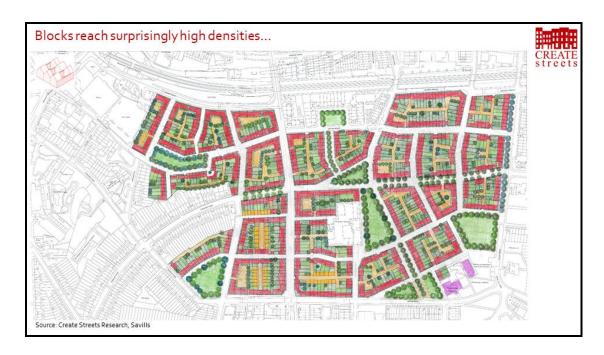
And Professor Steadman was talking about, he very nicely went through the different types of units.... so these are all simplified units per hectare, so you have got the tower block with the land around it, then you have got the more conventional continental courtyard blocks, then the terraces as well, now they have all got the same densities. This for me was one of the key concepts when I was looking at how to densify to support public transport and to combat climate change.



So the highest density cities in Europe - Barcelona and Paris. It doesn't look like Nine Elms in London. We don't have 22, 23 and 50 storey tower blocks here.



The densest square kilometre in London - does anyone have a random guess? - well it is Islington, and Maida Vale as well. I think when people realise that it is something of a lightbulb moment, blocks really can reach some surprisingly high densities.



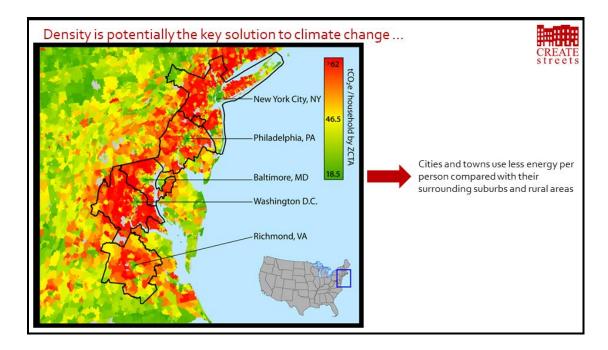
As see here in Bristol - this was a couple of Saturdays ago.



Density is a key thing for climate change, I think it might be <u>the</u> key thing. When I was making the usual gradual transition from flying a helicopter to thinking about building cities, I spent about a year thinking,

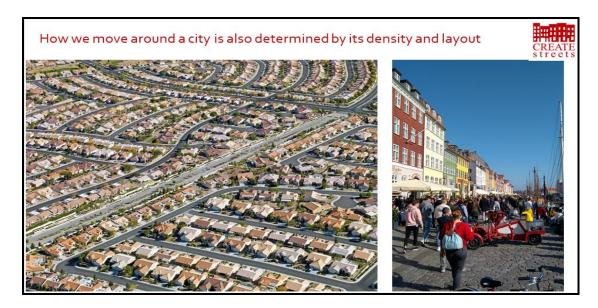
do I want to do engineering, do I want to improve electric cars, wind turbines, what do I want to do?

Actually my realisation was, it is all about how you use each parcel of land on earth, and my view is you need to move away from the countryside and nature - which humans have been pretty good at messing up - and we need to create denser cities. But it is important to balance that against well-being and other factors, so you don't just cram everyone into super-super high density.



What is the most sustainable city in America? You can [above] see the island of green where New York is.

North America is famous for its suburbs - but the energy use per person is far, far higher there.



The other link topic that I am very passionate about it air pollution. And the air pollution figure that I have got here is 36,000 premature death. Another study this week is estimating 80,000. I am pretty sure it will go up, and I fully recommend reading Dr Gary Fuller's book on it which summarises it very nicely. It is now a bigger risk than smoking deaths, really driven by cars and private transport.



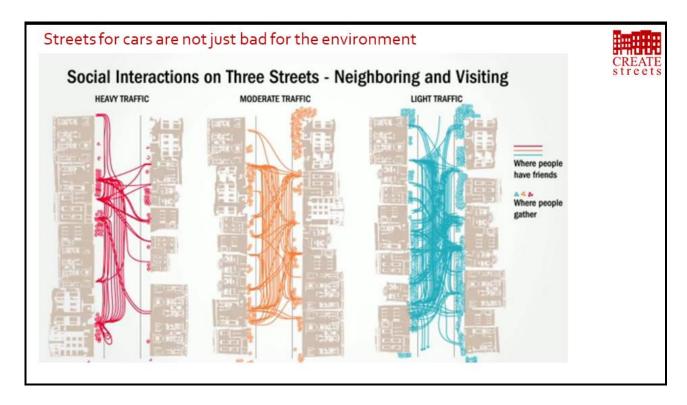
You might think that electric cars are the answer, but electric cars aren't really the solution, because the emissions are one portion of that figure, but actually the tire wear, the friction on the road that kicks up lots of particular matter, and the brake wear as well. We have invented great disk brakes, but they are totally exposed, so they are way worse for air pollution than the drum brakes which we used to have.



This why it is important - I was very sad to not be here for that.



Cars are not just bad for the environment. This is a much older study looking at social interaction, how well people know their neighbours - on a heavily trafficked street, on a moderate trafficked street, and on a light trafficked street. And it speaks for itself really, how well people interact on a street where you have fewer cars and less moving traffic.



You want to have mixed use, you want to have a variety of commercial space, office, retail, restaurants, bars, and living-space above. It is not rocket science, to be honest.



Our most recent research is called "Streets and Squares". It looks at, why do we need to bother about beauty? Why does what we call the vertical infrastructure matter?

Of Streets and Squares: do we need to bother about beauty?



- 1. What most people like most of the time is fairly predictable
- 2. Living in places you find attractive is good for your mental health and pro social behaviour
- 3. Façades should 'live' and have variety in a pattern
- 4. Some façade complexity is good but not <u>too</u> much. Coherence matters too:
- 5. Some colour is nice
- 6. People seem to prefer some symmetry in their facades



The importance of symmetry and facades

This was a study for the Happy City project in Toronto. Volunteers posed with a map pretending to be lost in front of these two different facades, and you can see that in front of the active facade 10% offered to help, versus 2.2%, 7% lent their phone versus 1%, and 4% actually led them to

their destination. They must have a hell of a lot of free time on their hands! Versus 1% on the passive facades.

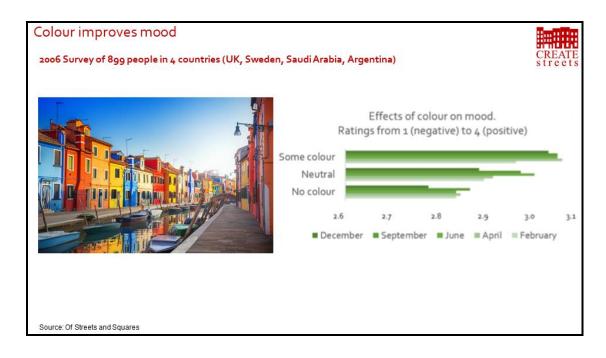


There are some pretty good active facades here in Bristol, so maybe you might try it, stand out there looking a bit lost, someone might help you....



Colour - is colour important?

We did some research and some polling on the effects on mood, and it is not conclusive, but there is some quite good evidence that people prefer some sort of colour.

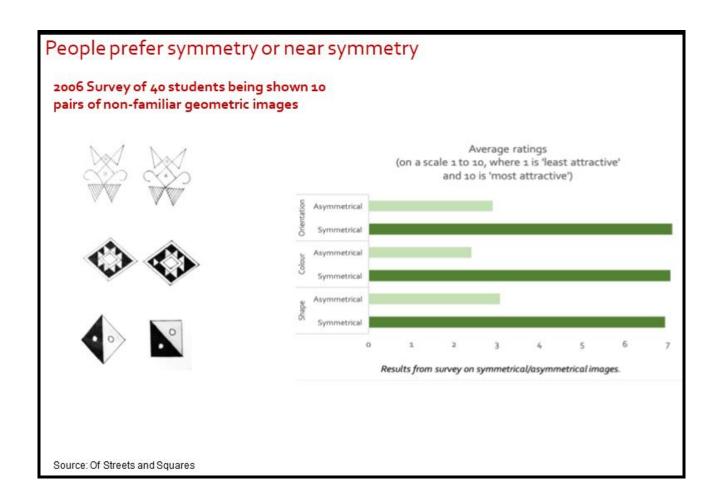


It is probably demonstrated here as well...



People prefer symmetry or near-symmetry, and this doesn't mean an enormous perfectly symmetrical block, think of it as the symmetry of a house, not so much of the row of houses, and if you have the symmetry of the house, that is preferred.

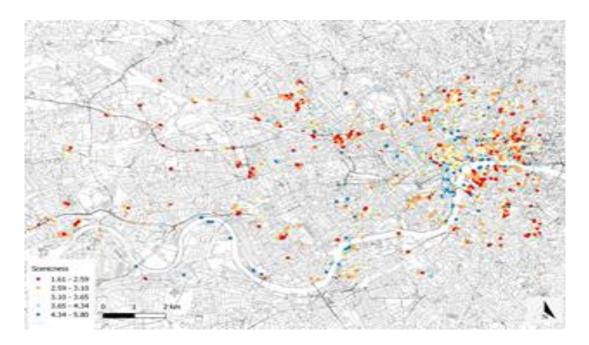
This was a study with different shapes, as to whether people voted the symmetrical or a-symmetrical as the most attractive.



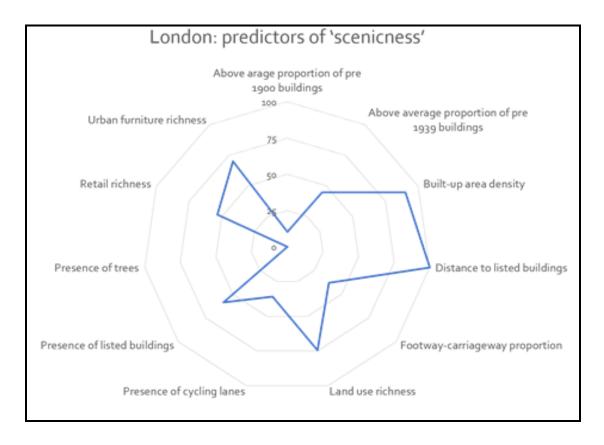


This kind of data on beauty is important, because what people like is actually predictable

We worked with a fantastic researcher who 1 1/2 million data points into over 200,000 images and looked at things like the presence of trees, listed buildings, built up density, and the average age of buildings, and then created a model which would then seek to predict "scenicness"-

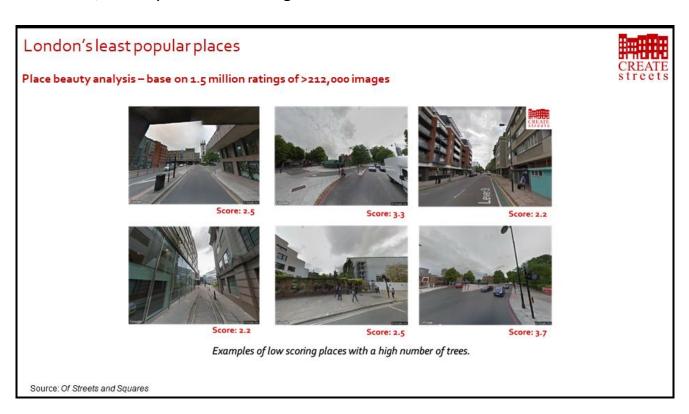


"Scenicness" seeks to predict the most beautiful and most popular places in London. The model's results were then compared versus some Mori polling. and essentially the model was predicting very well.

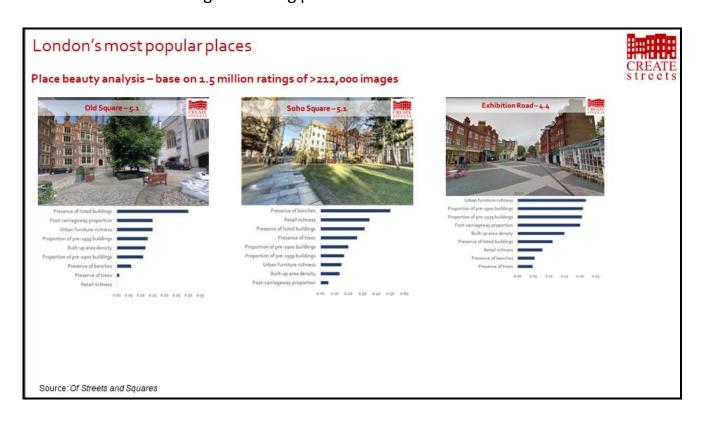


You can see the built environment below here - obviously not very nice. However I am just demonstrating that we can predict for beauty.

Beauty is not something that is inherently in the eye of the beholder and everyone will have a totally different opinion. Most people, most of the time, actually like similar things.



These were the higher scoring places:

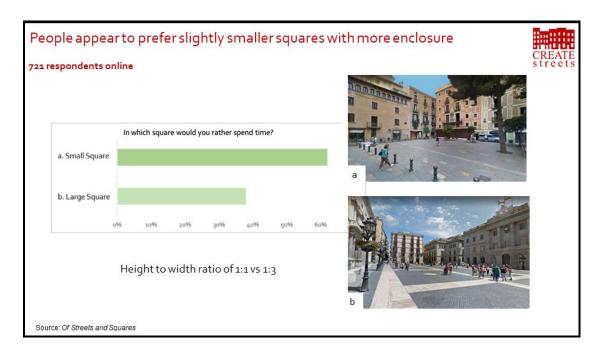


Small squares are preferred

We found that people prefer slightly smaller squares with more enclosure than large squares, the difference is quite dramatic actually, 38% versus 62%.

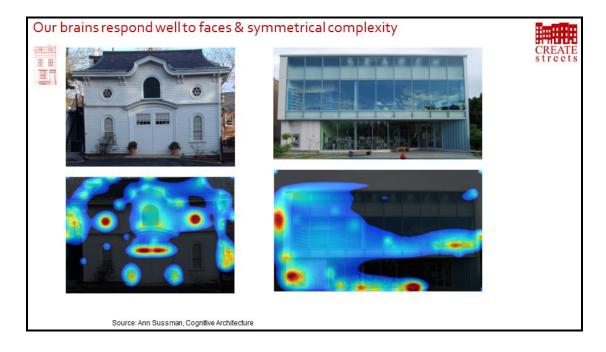
This reminds me of the urbanist Jan Gehl. His point is that you go into an Italian square you can just about see the face of everyone, you would recognise who your friends are, who you wanted to meet.

It is the Facebook of old - you would go to the town square and you knew that you would find someone who you wanted to speak to and wanted to see. And if the squares are too big, we don't like it, we know who everyone is in that square.



More on symmetry

Our brains respond well to symmetry, especially if it is faces.



This is quite interesting, if you look at and do this next time you are walking past a watch shop, look where the hands are - they are pretty much always at 10 to 2.

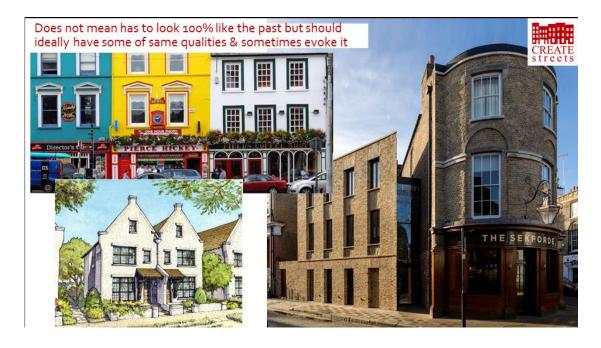


These are totally random watch adverts, obviously curated so that they backed me up on my point here! But they are all at 10 to 2. And I am pretty confident that if you go and look, most of them will do this. It is the representation of a face. It seems honed into you before birth.

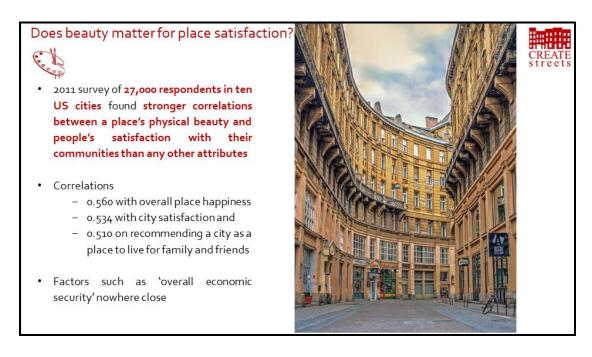
We are not saying that things have to 100% look like the past, but it should have the same qualities, it should have similar proportion of glazing versus the facade, heights, and some elements of symmetry.

Back to beauty - it does matter

All the surveys do show that beauty does matter for place satisfaction.



There are quite strong correlations here: 0.56 with overall place happiness, city satisfaction, and when you compare it to other factors such as overall economic security they are nowhere close in terms of place satisfaction.



Does it matter for health? The correlation is saying that it absolutely does.



The correlations are stronger than for greenery and for street trees. Like I said, these results can be quite predictable.

Let's make newbuild a "positive"

I think we should not think of development as a negative, that every new building is a "let's not screw it up". Actually we should be looking, every place when we build something new, let's make it better!

Maybe one or two people would say this doesn't make it better, but actually most people in the audience would probably agree that does improve the area:

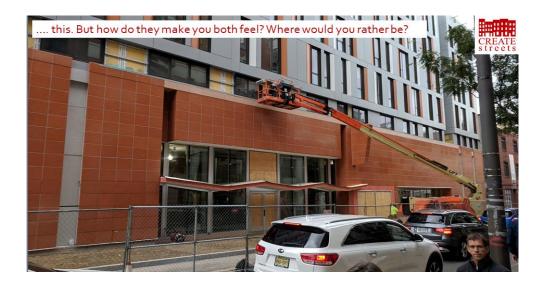




This is on the same urban block site...



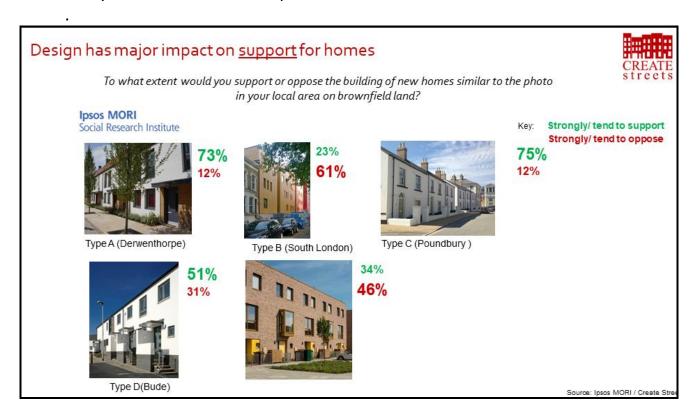
- as this!



We always hear the debate about NIMBYs and NIMBYs stopping development and driving house prices up.

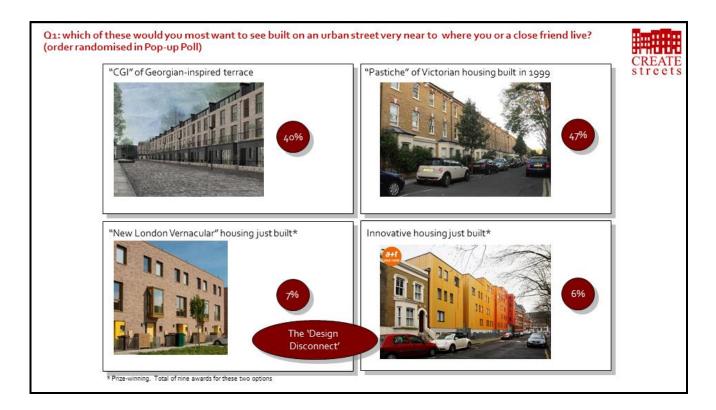
Well if you focus on design, you can really gain support from the local community. Engage these people earlier, ask them what they want, don't just take the word of an architect, and you will find that actually your plans, your schemes, your buildings will have far more support.

And you can see some examples here:



The point of this slide is to illustrate again - the top two received 40% and 47% support, while the bottom two received 7% and 6% support. Notice that the bottom two both received architectural awards!

And this is referred to in the community as the "design disconnect", which is - and I can say this because I have had very little architectural training - the more training you have in architecture, the more disconnected you are from actually what people want.

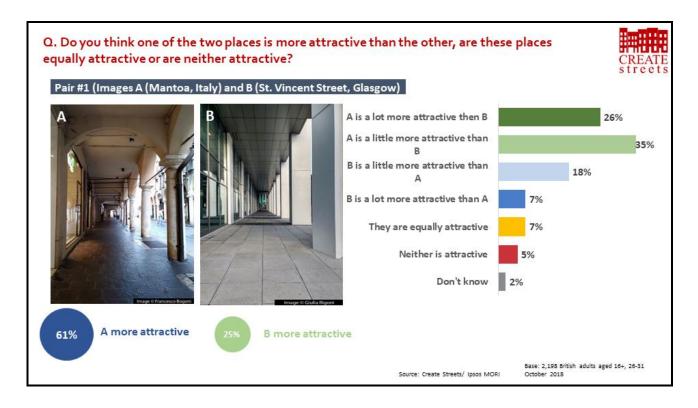


And this is why I have got a job!

So actually you have to trust your instinct more, and don't just sit in a room and think: they are an expert, they have been trained, they know what I am going to like.

Complexity

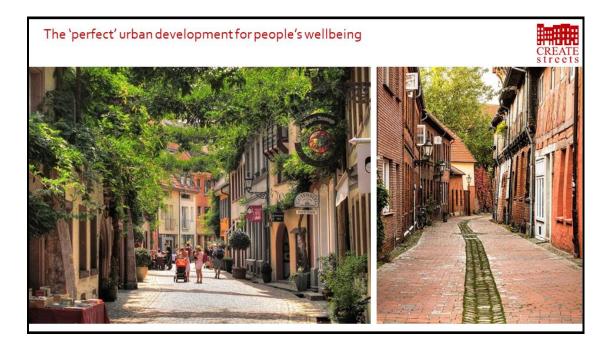
Lots of polling shows that looking at similar situations, people want to see complexity right up close and also far away.



The same point again - 53% of households saying that having more say in the design layout would make them less opposed to new buildings.



I will leave you with, maybe this could be the perfect development for people's well being.



Finally a bit of hope

We can create beauty. This is new, the Bourne Estate in London.

But it is quite rare.



Thank you!

Some links to Create Streets' work:

Create Streets: not just multi-storey estates

Do tall buildings benefit London?

From Nimby to Yimby: How to win more votes by building more homes