



AIA
Pittsburgh

Blueprint for Better: Pittsburgh



AIA Pittsburgh

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Buildings Are Not Neutral

Buildings and our physical surroundings play a more significant role in our lives than most of us realize, they are never neutral. Our built environment can enable progress or obstruct it, contribute to the wellbeing of our communities or disturb it.



At the 2017 AIA National Conference, Michelle Obama stated that...

...when children grow up in neglected surroundings
they feel personally neglected
and it affects all aspects of their lives

Why? Because we are fundamentally hard-wired to react to spaces around us, but we often don't realize it or talk about architecture in this way.

This is Your Brain on Space

Our brain takes in **11 million bits of info per second** with **15-20% processed consciously** and **90% processed visually**.

- Low ceilings = sense of physical/ mental closedness and constraint.
- Open spaces = sense of freedom, engagement, and creative thinking.



Design for Wellbeing

- **Physical Health**
 - increased patient safety and healing time, reduced medical errors, staff injuries and patients need for medication.
- **Mental Health**
 - improved recovery; nature in design calms people, especially those under stress; social connectivity is anti-inflammatory.



Design for Wellbeing

Beyond how we feel, architecture also affects our performance

It costs nearly three times more to provide health care for a child with asthma than a child without asthma. In 2006, this amount is equal to \$1,650 per child. Note that most of these health costs are not borne by the schools, but rather by the students and their families.

Asthma is the most common chronic disorder in childhood, currently affecting an estimated 6.2 million children under 18 years of age.

A recent review by Carnegie Mellon of five separate studies evaluating the impact of improved indoor air quality on asthma found an average reduction of 38.5% in asthma in buildings with improved air quality.

American school children missed 12 million days of school in 2000 due to asthma.

The large majority of schools are built not to optimize health and comfort, but rather to achieve a minimum required level of design performance at the lowest cost. —Gregory Kats, principal, Capital E

Research indicates that high levels of background noise, much of it from heating and cooling systems, adversely affects learning environments, particularly for young children, who require optimal conditions for hearing and comprehension.

Sources (top to bottom): The Commonwealth of Massachusetts, Attacking Asthma, Combating an epidemic among our children, and Center for Disease Control, "Health, United States, 2006"; in Capital E, Greening America's Schools: Costs and Benefits; E Greening America's Schools: Costs and Benefits; Carnegie Mellon University Center for Building Performance, in Capital E, Greening America's Schools: Costs and Benefits; American Federation of Teachers, Building Minds, Mindful Buildings: Turning Classroom Schools into Environments for Learning; Capital E, Greening America's Schools: Costs and Benefits; National Clearinghouse for Educational Facilities, Do School Facilities Affect Academic Outcomes?



The air is unfit to breathe in nearly 15,000 schools.

Students and faculty typically spend 85% to 90% of their time indoors (mostly at home and at school), and the concentration of pollutants indoors is typically higher than outdoors, sometimes by as much as 10 or even 100 times.

Students with limited classroom daylight were outperformed by those with the most natural light by 20% in math and 26% on reading tests.

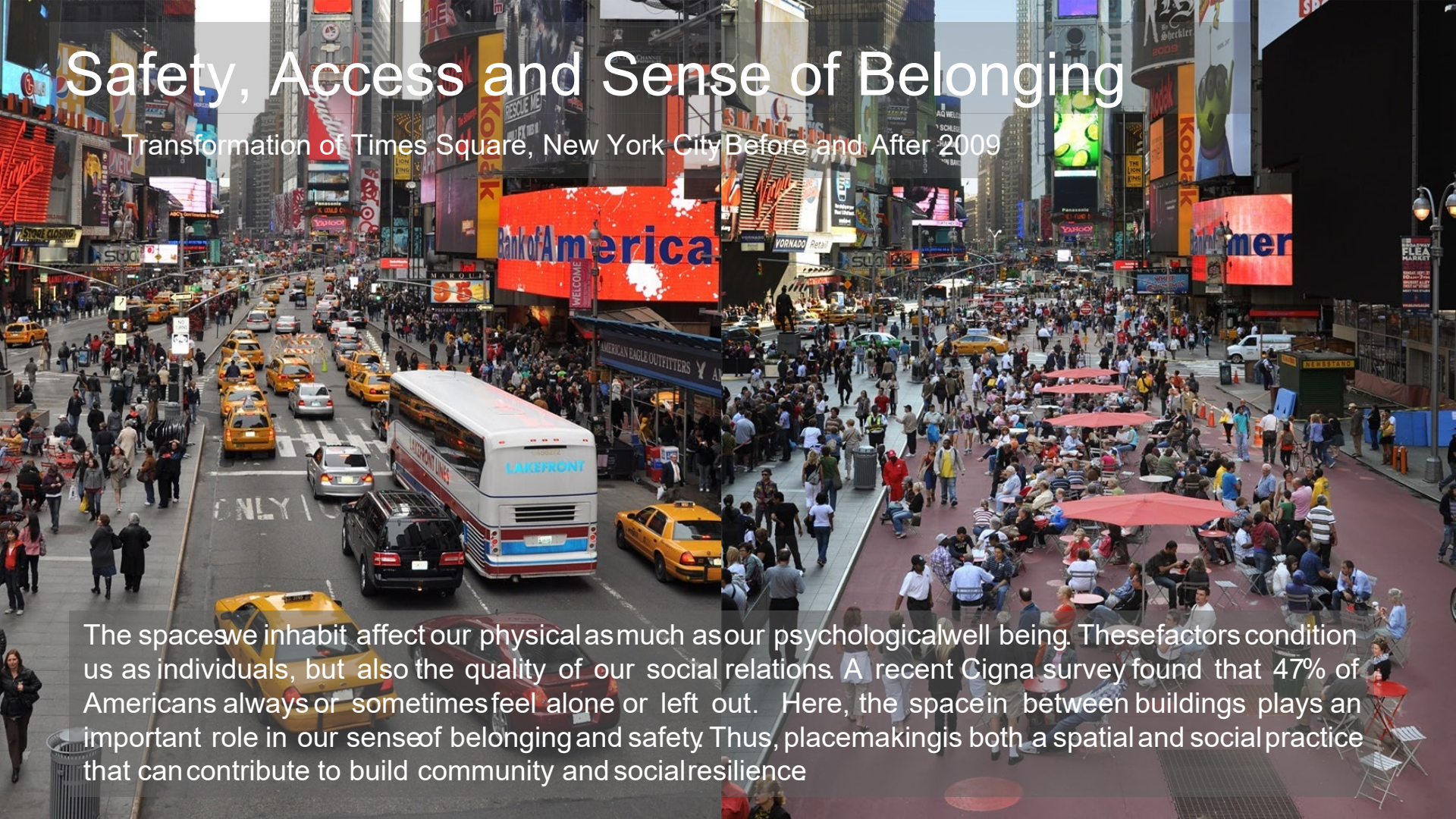
Many classrooms feature a speech intelligibility rating of 75% or less. That means listeners with normal hearing can understand only 75% of the words read from a list.

14 million students (more than a quarter of all students) attend schools considered below standard or dangerous, and almost two-thirds of schools have building features such as air conditioning that are in need of extensive repair or replacement. This statistic does not include schools with less obvious but important health related-problems such as inadequate ventilation.

Sources (top to bottom): General Accounting Office Report # HEHS-95-95, "School Facilities: America's Schools not Designed or Equipped for the 21st Century"; in Capital E, Greening America's Schools: Costs and Benefits; U.S. Environmental Protection Agency, "Indoor Air Quality"; National Clearinghouse for Educational Facilities, Do School Facilities Affect Academic Outcomes?; Hi Education, "American School & University: Creating Positive, High Performance Learning Environments"; General Accounting Office Report # HEHS-95-95, "School Facilities: America's Schools not Designed or Equipped for the 21st Century"; in Capital E, Greening America's Schools: Costs and Benefits

Safety, Access and Sense of Belonging

Transformation of Times Square, New York City Before and After 2009

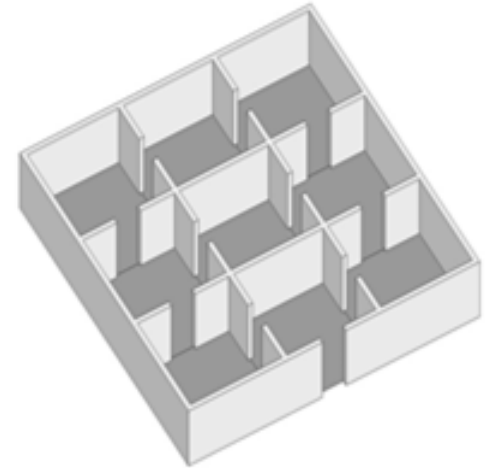
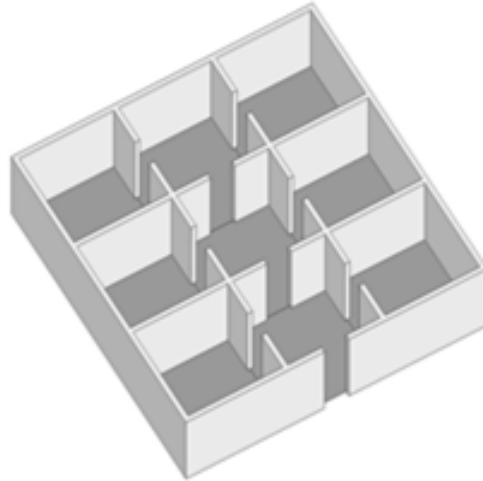
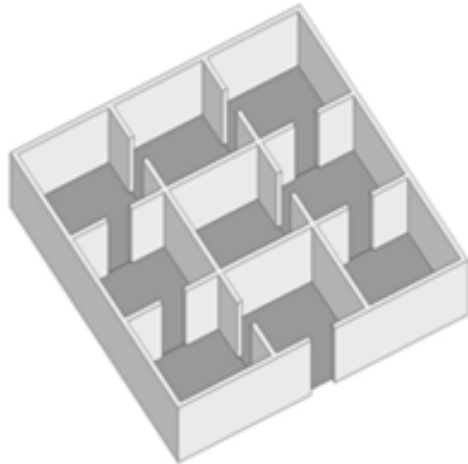


The spaces we inhabit affect our physical as much as our psychological well being. These factors condition us as individuals, but also the quality of our social relations. A recent Cigna survey found that 47% of Americans always or sometimes feel alone or left out. Here, the space in between buildings plays an important role in our sense of belonging and safety. Thus, placemaking is both a spatial and social practice that can contribute to build community and social resilience.

Good design fosters social connection

Very small changes in spatial flow can radically alter the use and experience of a building.

Which would you choose?

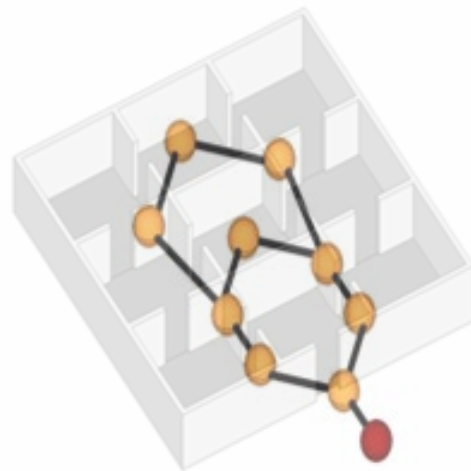
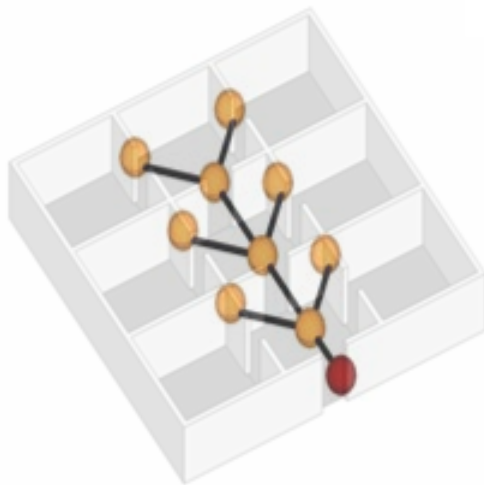
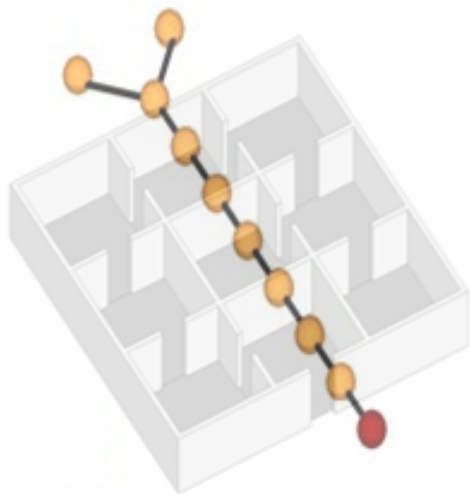


Good design is not just about how buildings and spaces look and feel. Design shapes human activity in subtle and subconscious ways. Many would look at these options and say, these are essentially identical, the one on the left has less doors and must cost less, let's go with that one.

Good design fosters social connection

Very small changes in spatial flow can radically alter the use and experience of a building.

Which would you choose?



But, if you look deeper at the social logic of space, the one on the right will optimize social connection. For the price of a few more doors, you buy connectivity.

At this transitional housing for the homeless and disabled veterans in Los Angeles, mental and health services are provided on the first floor flooded with natural light and a community-oriented space is at the heart of the design. Good design creates a place that provides dignity to the residents in a building that says 'you are worth it'.



The Six Skid Row Housing Trust

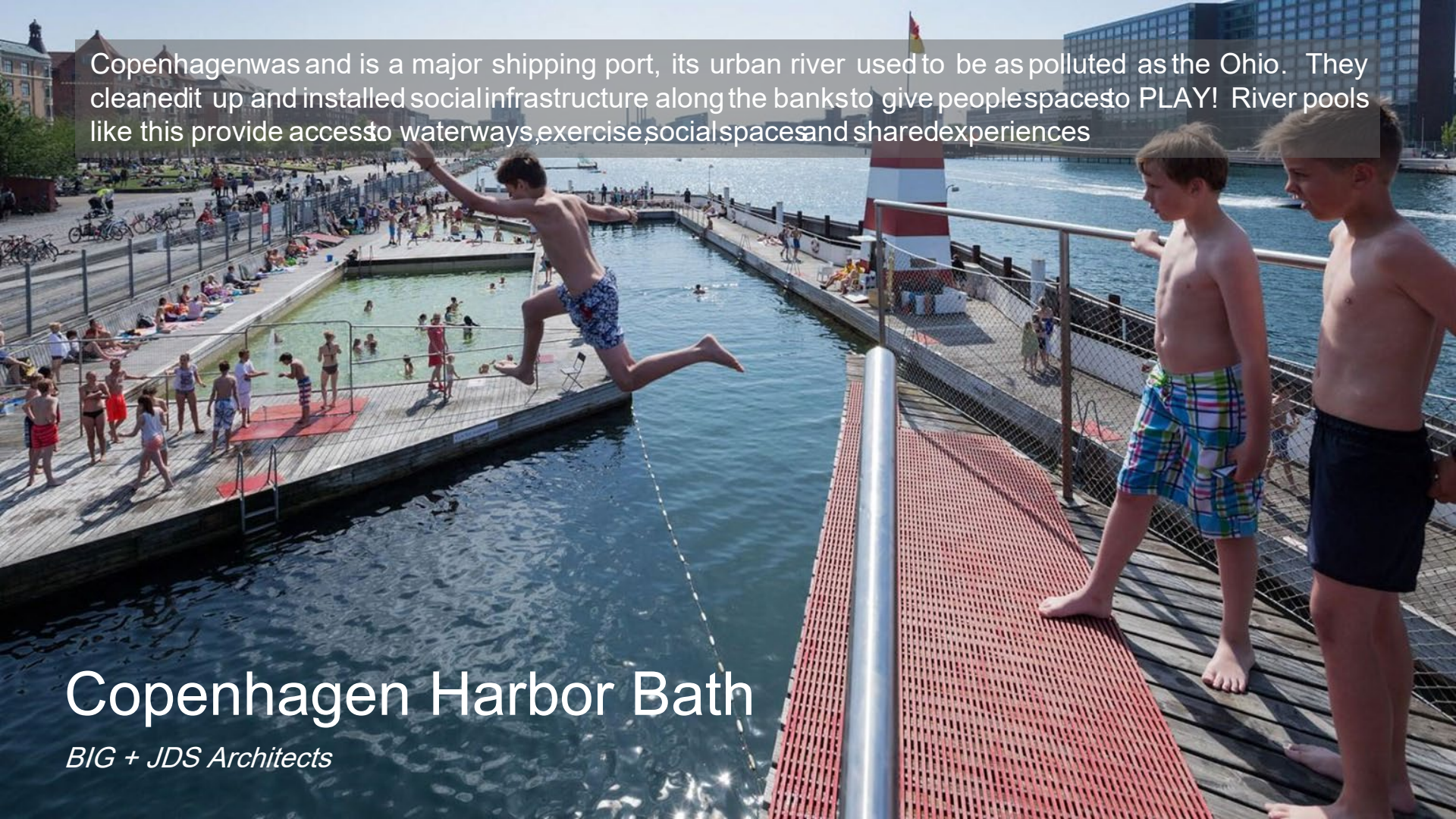
Brooks + Scarpa Architects

Located on a former steel mill along the Allegheny, Tree Pittsburgh is one of the most affordable net-zero energy building in the country, proving that sustainable design is for everybody. This building improves the wellbeing of the community through creating a green and healthy environment.

Tree Pittsburgh

GBBN Architects

Copenhagen was and is a major shipping port, its urban river used to be as polluted as the Ohio. They cleaned it up and installed social infrastructure along the bank to give people space to PLAY! River pools like this provide access to waterways, exercise, social spaces and shared experiences



Copenhagen Harbor Bath

BIG + JDS Architects

An aerial photograph of a city during the golden hour of sunset. The sky is a warm, hazy orange. In the background, a prominent hill features a blue water tower. The city is densely packed with buildings of various architectural styles, including modern multi-story structures and older brick buildings. A large, light-colored commercial building with a red Target logo is visible on the right. The foreground is dominated by a residential neighborhood with dark roofs and lush green trees. The overall scene conveys a sense of a vibrant, established urban community.

Design Matters

There is little public conversation in our region about how the built environment is a key factor in becoming the place we say we want it to be – livable, healthy, equitable, welcoming, tolerant.

Blueprint for Better Goals

1. Inform and empower the public, community leaders, design and building professionals, developers and public agencies to be able ***to envision and advocate for a better built environment.***
2. ***Initiate a city-wide conversation*** about how buildings and spaces play a major role in achieving - or not - a healthy, livable and inclusive city and region.
3. ***Listen and learn*** from others ***about the obstacles*** to realizing such a vision and engage architects to help seek solutions.