

## Life on the City Planet

The Earth has become a “**City Planet.**”

**More than 50 percent** of the world’s population now lives in cities, and every week, **1.3 million** people get a new urban address.

Advancements in **industrialization** are to thank for this trend of mass migration to urban centers. The urban economic opportunities available to rural populations have grown exponentially over the past two decades, and more than **70 million** people move to the cities each year in search of employment and improved financial freedom.

As the global industrial landscape continues to evolve, this **urban exodus** to the modern city will have potentially serious **consequences** if we continue to ignore the impact urbanization has on the environment and humanity.

*“As more of the world’s population lives in cities, rapid development to accommodate them will make existing environmental and socioeconomic problems worse. Epidemics will be more common due to crowded dwelling units and poor sanitation. Global warming may accelerate due to higher carbon dioxide output and loss of carbon-absorbing plants” (Outlook 2009 p.3).*

Land that was once valued for its fertile soil in sustaining agriculture is now coveted for its proximity to urban centers and ability to be converted into **inhabitable space**. We are paving over what little green space we have left at unprecedented rates as our cities strive to accommodate their newest residents. Nature has become a **common casualty** of urbanization, and experts argue that losing valuable green space negatively affects our quality of life.

*“Scientists have shown that green spaces promote community togetherness, reduce crime, improve our physical health, and enhance our psychological well-being ... But more fundamentally than this, urban green spaces are one of the few places where we can experience nature in our increasingly urbanized world ... green spaces perform important functions such as storing carbon dioxide in the vegetation, helping to reduce high temperatures caused by the sheer expanse of asphalt and lack of shade, and helping to prevent floods by soaking up storm water” (Fuller).*

**Top 5 Most Walkable US Cities**  
(Source: [Walkscore.com](http://Walkscore.com))

1. **San Francisco** (Chinatown, Financial Dist., Downtown)
2. **New York** (Tribeca, Little Italy, Soho)
3. **Boston** (Back Bay-Beacon Hill, South End, Fenway-Kenmore)
4. **Chicago** (Loop, Near North Side, Lincoln Park)
5. **Philadelphia** (City Center East, City Center West, Riverfront)

**WATCH:**  
**Walkable Communities**



From [Worldchanging.com](http://Worldchanging.com):  
“This video from the US Center for Disease Control (CDC) makes a clear, succinct, case that’s easy to understand. Planning communities that are dense and walkable, like the one shown in the video, allows residents to live within walking distance of grocery stores, office spaces, libraries, and schools, helping them decrease their carbon emissions, build close-knit communities, and improve their physical and mental health.”

**GET INVOLVED:**  
**architecture for humanity**

“Our vision is one of a world where designers innovate globally to build housing, schools, clinics, and other essential infrastructure locally.”

**CHECK IT OUT:** The [Open Architecture Network](http://OpenArchitectureNetwork), the first website to provide access to **open source** architectural plans.

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But not all experts agree. Stewart Brand, founder of the *Whole Earth Catalog* and cofounder of the Global Business Network, argues that urbanization actually has a **positive overall effect** on the environment.

*“For environmentalists, the massive urbanization could represent a huge opportunity, though most haven’t realized it yet. The ‘ecological footprint’ of cities is indeed large (and well studied), but the per-person environmental impact of city dwellers is generally lower than that of people in the countryside, and it can be made lower still. In many regions the emptying of the countryside means that the pressure on natural systems is suddenly reduced” (Brand p.13).*

**Are cities less environmentally offensive than their rural counterparts? How can we plan urban spaces that are both environmentally conscious and economically prosperous?**

When we hear the word “city,” we often picture New York City, with massive skyscrapers, congested streets, and busy pedestrians. We think about cities as hubs of business, entertainment, transportation, and technology. But across the world, there are many cities cropping up, absent planning or government, that look unlike any city we have seen in America. We should prepare ourselves for the rise of **squatter cities**.

*“New squatter cities usually look like human cesspools and often smell like them. There is usually no infrastructure at all for sanitation, for water, for electricity, or for transportation. Everyone lives in dilapidated shacks jammed together wall to wall, with every room full of people” (Brand p.6).*

While the conditions of these squatter cities are far less than what we would consider acceptable, the **economies** of these urban slums are **booming**. Brand estimates that the city of Mumbai, with six million squatters representing half of the city’s total residents, accounts for at least one-sixth of India’s entire GDP.

*“Each narrow street is one long bustling market of food stalls, bars, cafes, hair salons, churches, schools, health clubs, and mini-shops of tools, trinkets, clothes, electronic gadgets, and pirated videos and music.*

### Dispelling the Myths of the Urban Slum



**Myth #1: Squatters are most concerned about living in sub-par housing.**

**FACT:** “When governments and idealistic architects provide public housing, those buildings often turn into the worst part of the slums. The people who build the shanties take pride in them and are always working to improve them. The real issues for the squatters are location – they want to be close to work – and what the U.N. calls ‘security of tenure.’ They need to know that their homes and community won’t suddenly be bulldozed out of existence” (Brand p.9).

**Myth #2: Urban slums are riddled with crime.**

**FACT:** “Far from being the hotbeds of criminal activity that everyone assumed, the squatter cities are often victimized by criminals from outside, because they have no protection by government police” (Brand p.9).

**Myth #3: Squatter cities are inherently poor with no opportunity for prosperity.**

**FACT:** “Squatters are tremendously resourceful and productive. In aggregate they are the dominant builders in the world today. They will do much of the work and innovation of building the cities of the 21<sup>st</sup> century and the global urban economy” (Brand p.9).

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*What you see up close is not a despondent populace crushed by poverty but a lot of people busy getting out of poverty as fast as they can ... they thrive economically, charging each other rent for space in unowned buildings, employing each other in their unlicensed businesses, and selling each other all manner of goods and services. This is what is called the informal economy” (Brand p.6).*

Over a period of years, squatter cities transform from informal economies to formal ones, just as every major city has done from the beginning of civilization. The difference now is that businesses, instead of fighting against squatters, are increasingly **partnering** with them and learning from them, turning would-be urban pirates into paying customers.

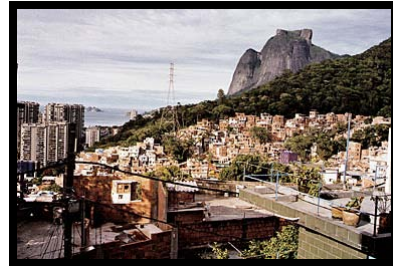
**What can we learn from the self-organizing behaviors of squatter cities? How can we replicate their low energy use and grassroots involvement in planning for future urban spaces?**

Brand notes that while squatter communities are prevalent in developing countries like India and Brazil, **China** has seen rapid industrialization cultivate cities across the country without the rise of shantytowns. Over the last 50 years, 300 million Chinese have migrated to the cities, and what the US experienced a century ago with its own Industrial Revolution, China is just now realizing as the gravity of its own urbanization weighs on its current city infrastructure.

*“If current trends hold, China’s urban population will expand from 572 million in 2005 to 926 million in 2025 and hit the one billion mark by 2030. In 20 years, China’s cities will have added 350 million people – more than the entire population of the United States today. By 2025, China will have 219 cities with more than one million inhabitants – compared with 35 in Europe today – and 24 cities with more than five million people” (Preparing for China’s Urban Billion).*

**How will China’s urbanization affect the global economy? Will the Chinese government’s massive infrastructure improvement efforts of today effectively support its urban population of the future?**

**WATCH:**  
**Stewart Brand: Why Squatter Cities are a Good Thing**



**From TED.com:** “Rural villages worldwide are being deserted, as billions of people flock to cities to live in teeming squatter camps and slums. Stewart Brand says this is a good thing. Why? It’ll take you three minutes to find out.”



**CHECK IT OUT: Preparing for China’s Urban Billion:** This interactive graphic, created by McKinsey & Company, looks at the impact of China’s urbanization through 2025.

**From McKinsey & Co.:** “China should tailor policies that would shift urbanization toward a more ‘concentrated’ shape of urbanization. This pattern of urbanization could produce **15 supercities** with average populations of 25 million people or spur the further development of **11 urban ‘clusters’** of cities, each with strong economic networks and combined populations of 60-plus million.”

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In the US, cities only tell half the story of urbanization. Radiating out from the city centers like a massive concrete explosion is the phenomenon of **urban sprawl**.

Suburbs have taken shape as the family's haven from the bustling city. Master-planned communities bring together homes, schools, restaurants, shopping centers, and entertainment venues. And while some businesses venture into these suburban oases, most jobs still remain in the cities, perpetuating America's dependence on the **automobile**.

*"We have become addicted to driving. Most Americans rely on cars to meet the most basic needs of life. We cherish the 'freedom of the road' and safeguard it with a zealotry that suggests it was written into the Constitution. Americans drive more than any other society on Earth and are locked into doing so by choosing to live, work, and shop in out-of-the-way places that demand driving. A family chooses to buy a large house in a new subdivision at the edge of town because they understand they can get there by car. A job across town, remote from where they live and not served by public transit, is just as good as a job nearby" (Farr p.24).*

The **highway** has become our lifeline, connecting us to work, home, and back again. These expansive concrete arteries are responsible for much more than transportation; we depend on our nation's roadway infrastructure for the **freedom** to live in the suburbs while still enjoying access to the prosperity cities offer. We arguably take for granted their mere existence, and yet, as we saw in 2007 with Minnesota's Interstate 35 bridge that collapsed over the Mississippi River, our highway infrastructure is continuing to deteriorate beneath us.

*"In the first half of the last century, Americans went on an infrastructure building spree, and we've made good use of the things that were built, but we've been reluctant to pay to replace and repair thousands of miles of bridges, tunnels, roads, instead choosing to cross our fingers and rely on the good work of our parents, grandparents, even great-grandparents. But by that delay, we're just making sure that the eventual bill is even bigger" (America in Gridlock: The Price of Decay).*

### Consequences of Urbanization



**Obesity** Linked to the Built Environment? "We have become a **sedentary** population, deprived of exercise, and the result is a rising incidence of **obesity** ... At one time, most Americans got to their destinations **by foot**; many never ventured far from home their entire lives. People lived **locally**; they settled in one place and stayed there. They did not require mechanical means to get them across town to Costco. Children **walked** to school. Abraham Lincoln famously walked six miles each way to reach the library; today, we walk as little as an average of **four minutes a day**" (Farr p.19).



**Rising Car Costs:** "The average cost of owning, operating, and maintaining a new car is now estimated to be **\$7,000 per year**. The average vehicle is driven more than 12,000 miles per year, equivalent to **halfway around the Earth**" (Farr p.24).

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According to the Federal Highway Administration, more than 72,000 bridges across the country are in some sort of disrepair.

The federal government pays less than 25 percent of the costs to maintain our roads and bridges, relying on **state and local governments** to foot nearly 75 percent of the cost. Pennsylvania Governor Ed Rendell worries that without a larger chunk of federal assistance, our nation's roadways will never be adequate.

*“Unless the federal government is willing to step up and develop a real infrastructure repair program, we’re never going to be able to do the two things we need to do: One, maintain what we have, and two, build new things” (America in Gridlock: The Price of Decay).*

**Should the federal government become more involved in repairing America’s roads? How do we avoid another bridge collapse in the midst of an economic downturn? What budgets can we cut to pool money for infrastructure maintenance?**

To accommodate commuters, cities have had to construct and maintain adequate **parking facilities**. Anyone who has spent the better part of their mornings searching for a decent parking space might be surprised to learn that in the US, there are approximately four parking spaces for every car on the road. This is the equivalent of a 25 percent occupancy rate for America’s roughly **one billion parking spaces**.

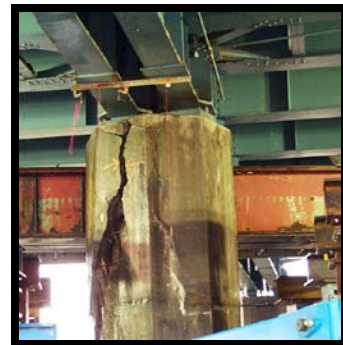
Aside from occupying city land, parking facilities are also quite **expensive**. Experts estimate that a single surface parking space can cost anywhere from \$2,500 to \$5,000; this same spot in structured parking facilities escalates to between \$30,000 and \$50,000, totaling a national capital investment of \$5 - \$10 trillion. The true cost of city parking, however, may be much higher.

*“Despite this enormous investment in parking, it is generally offered free to users, paid for by the private sector through increased prices and by the public sector in taxes. Donald Shoup singles out **free parking** as possibly the **most powerful inducement to own and drive cars** in the built environment, an unlikely but essential link in our addiction to driving and oil” (Farr p.24).*

### WATCH:



From **PBS.org**: “The breakdown of the levees in New Orleans and the collapse of the bridge in Minneapolis are well-known, but America’s infrastructure problems do not end in Louisiana and Minnesota. *NewsHour* Senior Correspondent Ray Suarez travels to every region of the country for an eye-opening series focusing not only on the neglect and underfunding of America’s decaying infrastructure, but on solutions for and new thinking about these pervasive problems.”



**FACT: Pennsylvania** has the nation’s **most structurally deficient bridges**. Pictured above is a 6-foot crack in a 15-foot tall column underneath Interstate 95 in Philadelphia that led officials to close a busy three-mile stretch of highway for two and a half days.

**Where the gas tax REALLY goes:** Only about **60 percent** of the gas tax money Americans pay actually goes into highway and bridge construction. The rest of it goes to **congressional earmarks**, according to former Secretary of Transportation Mary Peters.

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In the face of urban sprawl, is it possible to reduce our **dependence** on the automobile? Should cities **charge** for parking in an effort to promote public transportation and fund city improvement projects? Will people **stop driving** or start **carpooling** if they have to pay more for parking? If the **recent gas crisis** didn't reduce the number of cars on the roads, will paid parking faze us?

Fixing our highways and finding solutions for city parking only address our ability to get around by automobile. As the global economy continues to boom, more businesses are relying on America's **aviation infrastructure** to accommodate millions of travelers every year. But much like our roadways, it takes local resources to fuel change at the ground level. Robert Sturgell, the Acting Administrator for the Federal Aviation Administration (FAA) stresses that air travel is not an area where we can afford to be reactionary.

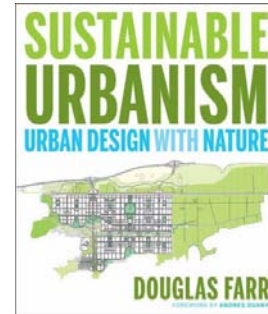
*"I can point out where we have the problems, where we have the challenges, put pressure on the local leadership. But at the end of the day, it takes the local leadership to build for the future ... As we look five, six, seven years from now [at] southern California and San Francisco's bay area, we don't see a solution coming down the road for those [areas] that's going to meet the projected capacity growth. You can't wait until you've got a problem to solve the problem; you've got to look out into the future and get these things online. They can take anywhere from five to ten years to build a runway" (America in Gridlock: Flying Blind).*

**What will it take to ensure airports and air travel infrastructure can handle increased travel capacity? Is it too late to address needs that are anticipated to be only five years out? Are we watching a worldwide aviation crisis unfold in front of us?**

The modern city is a masterful convergence of people, places, infrastructure, and industry. It is the **oldest surviving organization** in history, and its evolution has undeniably spurred the most important economic and social advancements the world has ever seen.

As **stewards** of the built environment, it is our job to ensure that cities will continue to inspire, transform, and transcend future generations of urban dwellers.

### FOOD FOR YOUR BRAIN: Suggested Reading



From **Amazon.com**: "Written by the chair of the LEED-Neighborhood Development initiative, *Sustainable Urbanism* is both an urgent call to action and a comprehensive introduction to 'sustainable urbanism' – the emerging and growing design reform movement that combines the creation and enhancement of walkable and diverse places with the need to build high-performance infrastructure and buildings ... Essays written by Farr and others delve into such issues as:

- Increasing sustainability through density
- Integrating transportation and land use
- Creating sustainable neighborhoods, including housing, car-free areas, locally-owned stores, walkable neighborhoods, and universal accessibility
- The health and environmental benefits of linking humans to nature, including walk-to open spaces, neighborhood stormwater systems and waste treatment, and food production
- High-performance buildings and district energy systems

At once solidly researched and passionately argued, *Sustainable Urbanism* is the ideal guidebook for urban designers, planners, and architects who are eager to make a positive impact on our – and our descendants' – buildings, cities, and lives.

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We are tasked with acting **sustainably**, planning cities that are both responsive to people and responsible to nature.

**But how can we envision a sustainable urban solution when we spend 87 percent of our lifetime indoors? Are we too far removed from nature to understand how to sustain it?**

*"The lack of human contact with nature has inured and possibly blinded us to the terrible damage we do to our planet. Modern consumer society, for instance, exploits natural resources at a rate that the Earth cannot sustain. Our appetite for petroleum, electricity, mobility, indoor living space, and material goods is enormous and unrelenting" (Farr p.21).*

**How will you get back in touch with your environment?**

### Sources:

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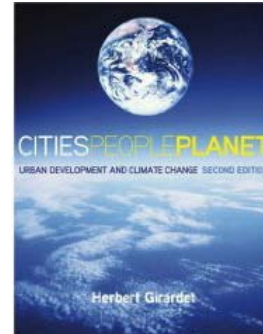
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**From Amazon.com:** "Urban growth is changing the condition of humanity and the face of the earth. Half the world's people now live in cities, with most of the other half depending on them for their economic survival. Mega-cities of ten million or more people are the largest, most complex structures ever made. They are the central hubs of modern economies and their transport systems. The resource use and waste discharge of contemporary cities dominate the human presence on earth. Fossil fuel technology powers modern urbanization, but in the coming decades many cities will become vulnerable to the rising tides of climate change. Across the world, we need a revolution in 'future-proofing' our cities, dramatically increasing their energy efficiency, switching to renewable energy technology and mimicking natural zero-waste ecosystems."

### **NEXT IN THE FUTURITY SERIES:**

#### **"Finding the Energy to Sustain Humanity"**

As a planet, we are addicted to fossil fuels, relying on them for every aspect of modern life. Can we make the alternative energy transition quickly and effectively without sparking global conflict? What energy sources will help us achieve oil independence?