

transportation challenges in the US



At a recent conference, two CME futures traders commiserated on the "dangerous times" Chicago is facing. Disconnected socio-economic silos are gradually shrinking, strangled by transportation congestion. Visions of a livable future are nonexistent or propelled by groups with limited interest. Financially the region is struggling with enormous pension program costs, inhibiting the organization of big, bold initiatives that made Chicago famous. Instead, the city is embracing transportation change in tiny increments: a tunnel from Elon Musk, re-decorated airports, and scooters. Chicago's situation, and its loss of population, is a sign that **America's largest cities are not thriving**. Populations in Los Angeles and New York are also decreasing.¹ Cynics might say that shrinking population and lowering property values are ways to eliminate congestion. But there are better alternatives.

America's second-tier cities are growing. In cities such as Austin, Charlotte, Denver, Raleigh, and Portland, people have realized they can **achieve active, diverse, urban lifestyles in less expensive smaller cities**. People are abandoning America's largest cities because there are too few supportive and affordable amenities. This is a critical policy failure.

If America hopes to **remain globally competitive it must reinvent and refocus**. The research shows that when cities double their population, wealth and innovation grow by 15%.² American cities are no longer the world's largest, not by far. In Asia and elsewhere, megacities are significantly bigger than America's. New centers of innovation emerge out of the unique characteristics of these places: in Shenzhen it's semiconductor and electronics,³ in Tokyo it's robotics. By coordinating cultural supports that accommodate larger populations, governments of these places are creating future centers of global culture.

The current, awkward, responses to the shrinkage of America's largest cities are parochial and polarized like American politics. The Left clings to the status quo because gentrification would limit the rights of vulnerable residents and generate

¹ [Why Are America's Three Biggest Metros Shrinking?](#), by Derek Thomson in the Atlantic

² [Growth, innovation, scaling, and the pace of life in cities](#), by Luis M. A. Bettencourt, José Lobo, Dirk Helbing, Christian Kühnert, and Geoffrey B. West, in Proceedings of the National Academy of Sciences, United States of America

³ [Welcome to Shenzhen, China's Tech Megacity](#), by Angus Bennett, in Bloomberg

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profits for greedy developers. Meanwhile the Right embraces the status quo because the government should not spend money to change the character of a city.

Both responses “aimed to combat” and fight incremental issues within a specific cultural perspective, misunderstand the global predicament. Alexandria Ocasio-Cortez’s “A Just Society”⁴ is applauded for its energy, only a fool or a miser would argue against such a goal. Nevertheless, reading the suggested actions, it becomes clear that adjusting knobs on a broken system will **not create the change people desire.**

Others say small is beautiful. The Slow Living movement⁵ has value and some argue that we have reached a sustainable limit, and that growth must be stopped. Yet, linear projections of exponential growth from 50 years ago have proved horribly inaccurate in light of a complex and unpredictably adaptive planet.⁶

Undoubtedly the danger confronting America's largest cities has interrelated causes: lack of economic opportunity, dingy living environments, educational challenges, fewer mixed-community interactions. Each domain has complex issues: excellent policing is conflicted with higher police suicides; low interest-rate speculation on residential properties is conflicted with towering high-rises, mimicking those from the 1960s; living becomes more difficult as more frequent emergency vehicle traffic, with increased pitch and volume, creates a continuous state of emergency. Even expectations of higher air quality have become issues that prosperous 21st-century cities manage.

The factors that make for a thriving megacity are changing. New York, Chicago, and Los Angeles have stagnated, becoming less desirable places to live, work, learn, and play, especially by global standards. Today, their defining characteristics -- their economic externalities -- include dreary transportation environments, persistent crime both petty and violent, worsening congestion, lack of affordable healthy

⁴ “A Just Society”, by Alexandria Ocasio-Cortez

⁵ [Slow Living](#), per Wikipedia

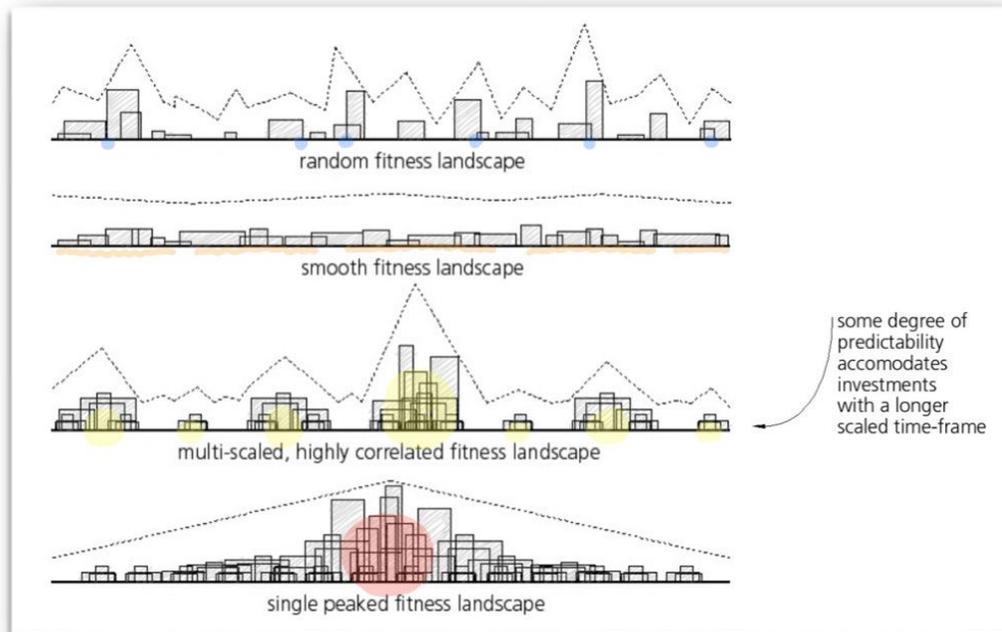
⁶ [COMPLEXITY RISING: From Human Beings to Human Civilization](#), a by Yaneer Bar-Yam, Encyclopedia of Life Support Systems (EOLSS), developed under the Auspices of the UNESCO (EOLSS Publishers, Oxford, UK, 2002)

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places for children to learn and grow, and disturbing amounts of homelessness; are restraining the creation of wealth and innovation in large American cities.

Sure, Times Square has more lights, Grant Park has more concerts, and Los Angeles is remaking movies: these marketing phenomena assist nostalgia to divert attention from current reality. Notably, the **cultural character has changed**, lacking a vision, living in America's largest cities has become anxious and resigned to fate.

Megacities in Asia, two or three times as big as America's largest cities, function without some of these difficult externalities. These cities are managed differently, have different transportation, cultural, educational systems, and health care & social practices.



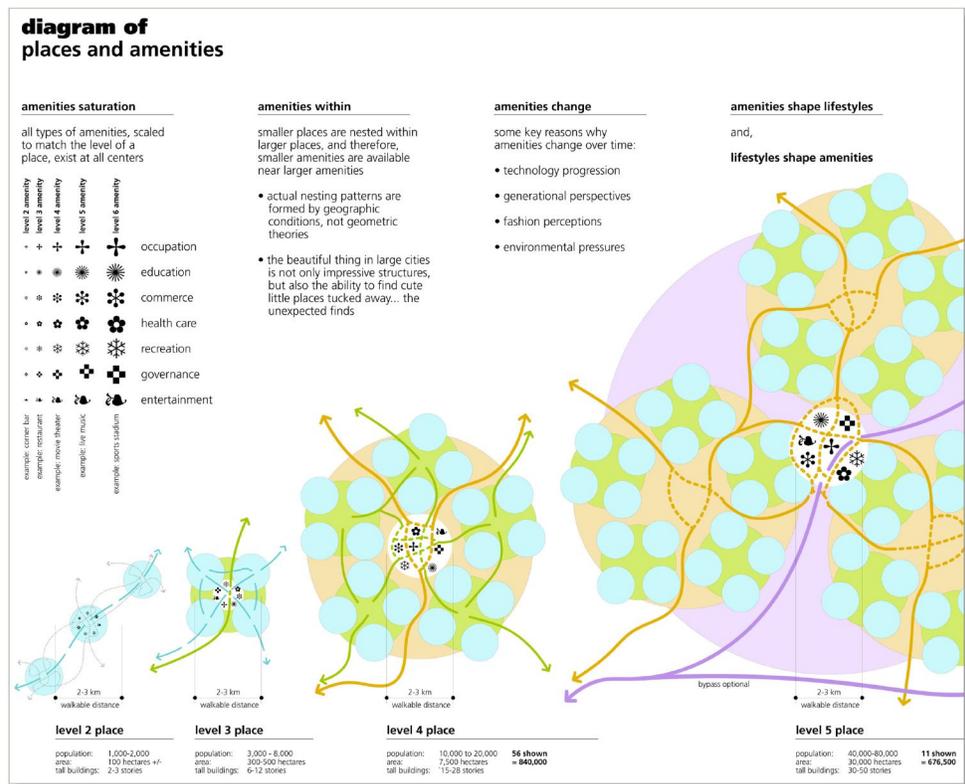
What would happen if America's largest cities returned to growth, but grew in a new way?

Accepting externalities are real, and continuous growth is not linear, it is only limited by our collective abilities to adapt to more complex cities. Thus research also identifies that as populations double, the resources allocated to transportation, educational systems, and health care & social practices increase on a per capita basis.

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If the US is to produce wealth and innovations, with other countries and their more populous, livable megacities, it must increase efforts to **manage the human and environmental externalities of safety, health care, and education in the largest metropolises.** Today is a moment of opportunity: many new technologies and ideas are suited to these new challenges.

New patterns of, and technologies for, people-moving contain the potential to change the physical arrangement of places: the cities, buildings, and spaces that people use to accomplish their needs. New modes of travel hold the potential to evolve a rich cultural space, opening possibilities for people to thrive in the next 100 years.



Oddly uncelebrated, Elinor Ostrom's 2009 Nobel prize-winning work points us in **the right direction: polycentricity.** Her theories are born through extensive field research on the management of the commons, the externalities of large American

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cities that retard wealth and innovation. There is a failure of imagination in solving America's major city challenges. Outdated thinking with 20th-century economic models about managing the commons persist. **Transportation is the most visible and dysfunctional example of this mismatch of the commons** and symbol of unaccounted for externalities.

America's largest cities are witnessing diminishing returns of transportation systems designed 100 years ago, and stuck with status-quo thinking, the means for reinvestment are not visible. The **proliferation of incremental improvements perpetuates the mismanagement of the commons** and extends unaccounted-for externalities. Congestion pricing, painted lanes, adding lots more signage, including digital signage (always changing), will not resolve the underlying arrangements and motivations of people, organizations, and their actions. Other incremental nudges like Neo-Traditional Town Planning, using more green-energy, shipping waste, and recyclables to Asia, will not create polycentric communities where the commons and externalities are managed through repeated community interactions.

Even in a simple urban environment with commercial entities competing for attention, the use of constantly changing digital signage is easily overlooked:



Separating people from their fellow residents via individualized transit also contributes to isolation and frustration which is compounded by social media. Those 20th-century City Planning models, dependent on spacing buildings further away from each other, and protecting land-value through segmentation of the marketplace, have contributed to a lack of civility among people who share roadway traffic without functional community practices.

The **public transportation fare-and-tax based funding model** is eternally short of funds since it does not recover the value created by transportation services. Similarly, the construction and maintenance costs of public roadways are increasing faster than inflation, and private (possibly autonomous) transportation services may not be contributing to their share to these increasing roadway costs.

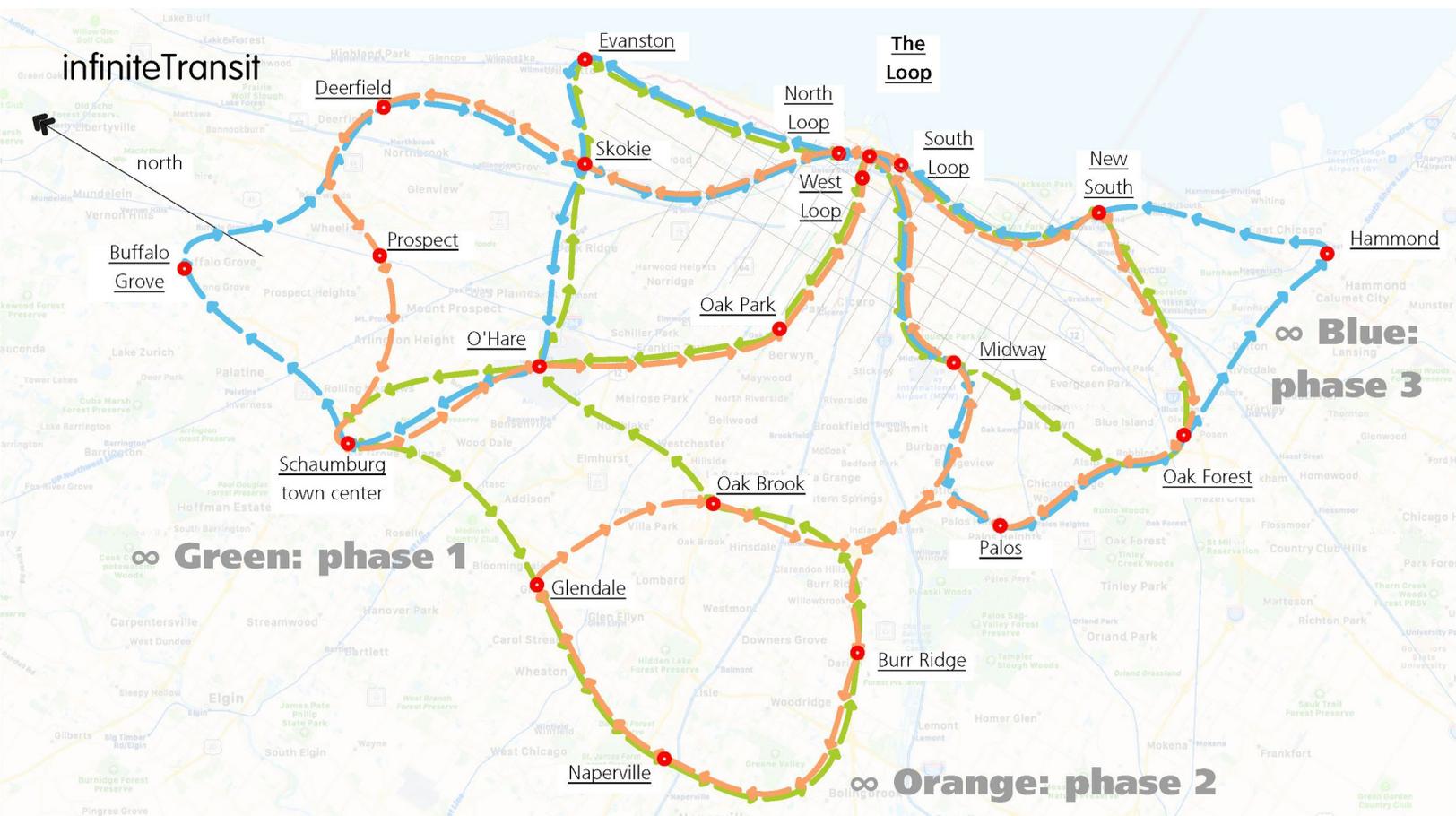
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new mechanisms

Well-designed polycentric places can address many challenges

simultaneously, and are based on evidence of healthy community interactions.

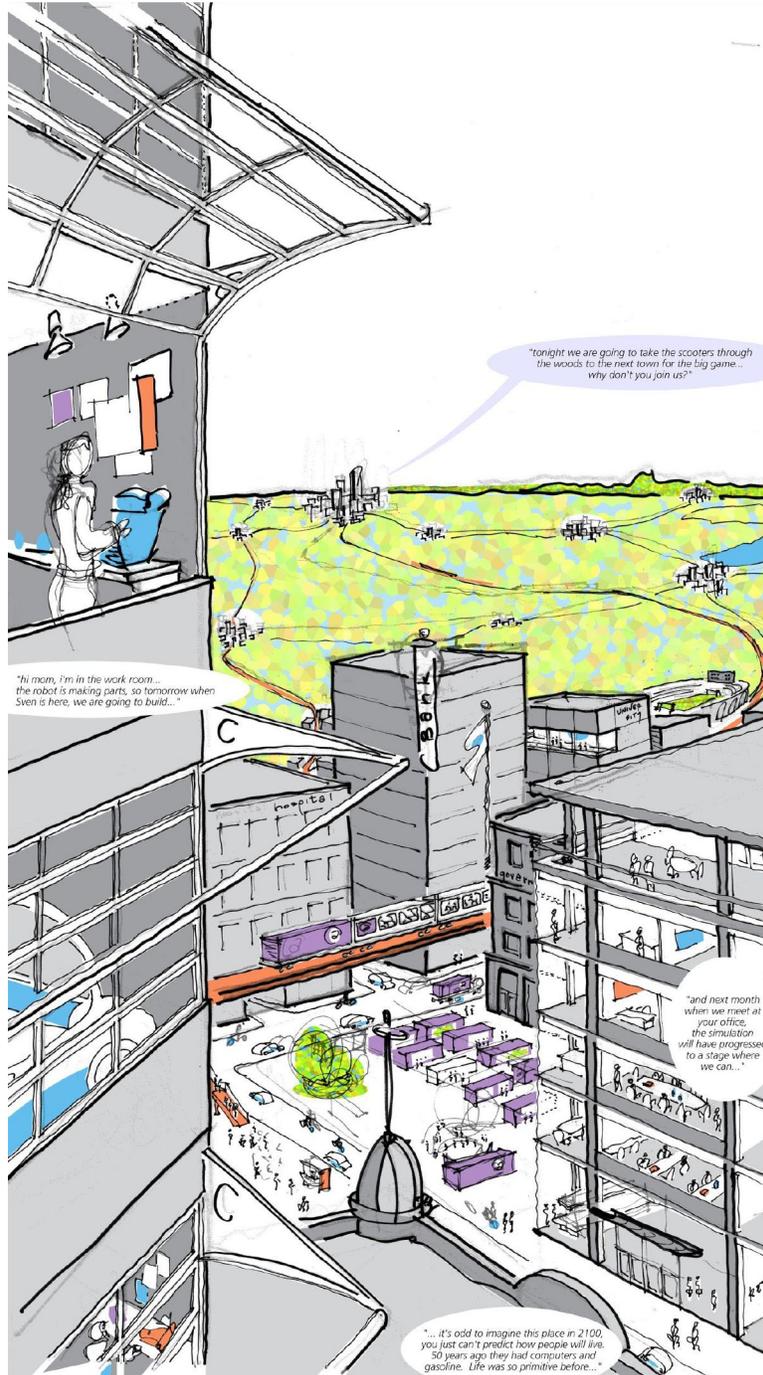
Advanced transportation modes integrated with real estate development practices contain the possibility of resolving single-peaked property values, which make living in megacities unaffordable to many. Such excessive costs of living exclude the very risk-takers who rethink and reassemble the valuable specialties honed in megacities: the massive energy of artists and inventors needed to create new culture.



This polycentric approach begins with building the infiniteTransit flyway, a **new metropolis-wide 130mph desirable travel network**. It will reinvigorate and grow America's shrinking metropolises. The infiniteTransit flyway aligns incentives to capture the value created by providing desirable travel services. Funding is provided by the long-term holistic value created, rather than limited to taxing and fare-based models.

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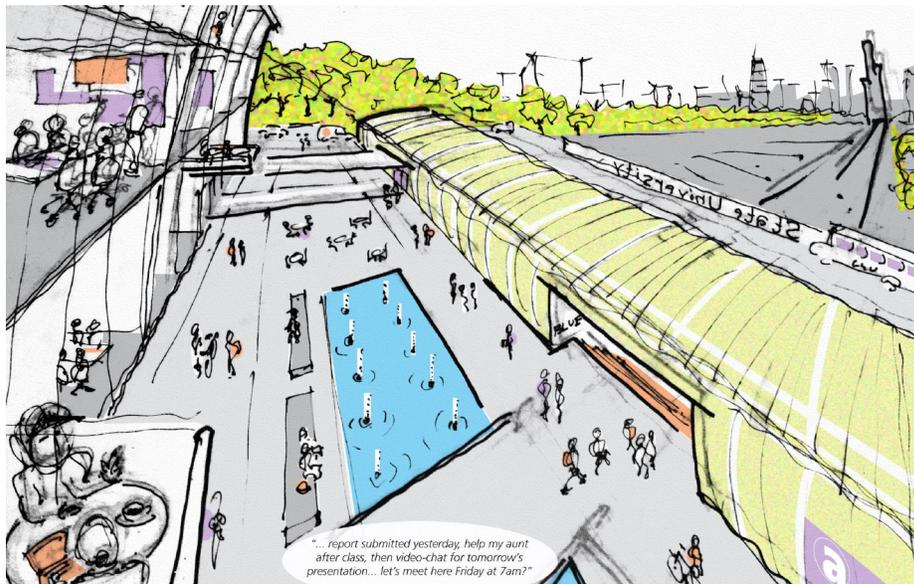
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New transportation can be combined with a polycentric approach to the large-scale construction projects required in megacities. The **KidCities mechanism is a polycentric tool to evolve places with local-level flexibility and coordinating-**

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level consistency. Replacing density restrictions of Zoning Ordinances, property values are maintained through access to advanced transportation, rather than market-segmented developments. Much of the last-mile transportation challenges can be resolved by walking, which contributes to cooperation through the repetitive interactions of strangers. Imagination in the design of truly amenity and pedestrian friendly environments will deliver desirable places to live, work, play, and learn.



Work is being done in many areas to bring new digital tools to bear on these seemingly intractable problems. New governance tools such as Quadratic Voting,⁷ are being used to create traceable decision-making that is more responsive to decision-makers' priorities. New transportation systems, like infiniteTransit, are being proposed that elevate to travel experiences around metropolises. New polycentric urban design tools like KidCities, are available to build places where people enjoy living. Also, new real-estate management tools such as Self Assessed Licenses Sold at Auction (or CoST Common-Ownership Self Assessed Tax)⁸, are being used to create the dynamism necessary to create evolutionary Places with thriving interactions, instigating new more sustainable lifestyles.

⁷ [“What Is Quadratic Voting?”](#) by Shaan Ray in Towards Data Science

⁸ [Radical Markets](#), by Eric Posner & Glen Weyl, Chapter 1 on Property is Monopoly