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SCALING UP:
How Superstar Cities Can Grow to New Heights

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Executive Summary

For decades, urban policy has focused on troubled cities—those losing population and commercial activity. But in many cities, the era of decline is over; today, we are seeing the emergence of prosperous, economically dynamic cities, often located on America's coasts. These "superstar cities"—New York, Los Angeles, the San Francisco Bay Area, Boston, Washington, and Seattle—are among America's largest, most productive urban regions. They have well-above-average per-capita GDP and incomes and serve as the home bases of high-value sectors like finance (New York) and high tech (San Francisco).

Despite their high incomes, these cities are growing slowly—or even, in the case of New York, shrinking—because of extremely high housing prices and overburdened infrastructure. In short, the superstars are suffering the problems of success, not failure.

There are a number of reasons that these cities are unable to expand their housing supply and infrastructure:

- Regulatory accretion and changes in social attitudes
- A loss of civic capacity to grow in the wake of an extended era of shrinkage—after decades of stagnation or decline, these cities are no longer organized to support growth
- A belief, on the part of ordinary current residents, that there are few significant marginal benefits to growth, or that the negative effects of growth, such as rising congestion, outweigh any benefits

America's superstar cities need to think like high-growth cities again, or the national economy will lose access to high-productivity locations. Avoiding this outcome will require significant liberalization of land-use regimes to permit more and denser housing development near transit lines and areas with the most jobs, as well as expansion of the urban footprint on the suburban edge.

Because local resident perceptions militate against growth, states should consider preempting local land-use control in a targeted way that balances growth with other community goods. Even with preemption, local leaders need to clearly articulate and sell to their existing residents the benefits of becoming a larger city.

In addition, these regions need to develop credible plans to expand their infrastructure, particularly transit and airports, to support the significant new levels of growth that a liberalized land-regulation regime would enable.

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Introduction

Much of traditional urban policy has been concerned with problems of civic failure, such as population and job loss, poverty, low-quality housing, and crime. But today, many urban problems are the result of urban success. This includes, for example, high housing prices and the resulting concerns about gentrification. These problems are especially acute in the superstar cities.

The term "superstar cities" was popularized by Joseph Gyourko, Christopher Mayer, and Todd Sinai in their 2006 NBER paper of the same title.[1] They defined a superstar city in terms of real estate: high demand (determined by price and quantity growth) and inelastic supply (a high ratio of price to quantity growth). These cities experienced rising housing prices relative to median incomes and income sorting toward a higher-income resident base.

The term has gained popularity and now refers generally to perceived "elite" cities on the coasts. Sources vary as to which cities they consider superstars, but most lists include the following urban regions:

- Boston
- Greater Los Angeles/ Southern California
- Greater New York
- San Francisco Bay Area
- Seattle
- Washington, D.C.

The four superstar cities that appear on almost every list are New York, Los Angeles, the San Francisco Bay Area, and Washington, D.C.

Today's broader concept of a superstar city includes not only higher housing prices but also higher economic productivity and incomes. For purposes of this paper, I define as a superstar city a metro area with real GDP per capita greater than 120% of the national average and a per-capita income greater than 130% of the national average. This selects all the urban regions on the list above, other than Greater Los Angeles / Southern California. Additionally, it includes the small metro regions of Boulder, Colorado, and Midland, Texas, both of which are very successful in their own right.[2] These particular GDP and income thresholds are illustrative and demonstrate that cities commonly referred to as superstar regions do outperform the rest of the country in economic output and incomes.

The critical industries and institutions shaping the nation and the world—finance, technology, media and entertainment, and government—are concentrated in superstar cities. Superstar regions account for 85% of all venture-capital dollars invested in the United States.[3] Amazon, based in superstar Seattle, initially chose New York[4] and Washington for its new "HQ2" offices.[5] In the Internet era, media has become even more concentrated in superstar cities. According to one report, 73% of Internet publishing jobs[6] are in the Northeast Corridor (Washington to New York to Boston) or on the West Coast.[7] And 62% of Harvard's class of 2018 moved to the states that contain most superstar cities: New York, California, Massachusetts, or the District of Columbia.[8] As Charles Murray of the American Enterprise Institute observed:

> [I]t is difficult to hold a nationally influential job in politics, public policy, finance, business, academia, information technology, or the media and not live in the areas surrounding New York, Washington, Los Angeles, or San Francisco. In a few cases, it can be done by living in Boston, Chicago, Atlanta, Seattle, Dallas, or Houston—and Bentonville, Arkansas—but not many other places.[9]

TABLE 1.

Housing Price Affordability in Superstar Cities

Superstar Region	Housing Market	Median Multiple
Boston	Boston, MA-NH	5.3
Greater Los Angeles/ Southern California	Los Angeles, CA Riverside-San Bernardino, CA San Diego, CA	9.2 5.6 7.8
Greater New York	New York, NY-NJ-PA	5.5
San Francisco Bay Area	San Francisco, CA San Jose, CA	8.8 9.4
Seattle	Seattle, WA	5.6
Washington	Washington, DC-VA-MD-WV	4.0

Source: Demographia International Housing Affordability Survey, 2019

TABLE 2.

Population of Superstar Cities

Superstar Urban Region (CSA)	2018 Population
Greater New York	23,522,861
Greater Los Angeles / Southern California (CSA + San Diego)	22,108,178
Washington	9,797,063
San Francisco Bay Area	8,841,475
Boston	8,285,407
Seattle	4,853,364

Source: Census Bureau Population Estimates Program, Vintage 2018; author analysis

Housing prices also remain high in superstar cities. The Demographia International Housing Affordability Survey[10] classifies metropolitan-area home affordability by median multiple, a price-to-income ratio in which the median home price is divided by the median household income in a region. A ratio exceeding 3 is considered unaffordable. As shown in **Table 1**, the super-star cities far exceed that, except for Washington, D.C.

Notably, these are mostly very large regions. Ordinarily, the metropolitan statistical area (MSA) is the best way to measure urban regions; but for some of these cities, MSA does not reflect the true geography of the region. This is especially true in the San Francisco Bay Area, which is comprised of two major metropoli-tan areas. The populations in **Table 2** thus utilize the larger combined statistical area (CSA) or modified CSA to provide a truer picture of the full scope of these superstar regions. Hereafter, all references to superstar cities or regions will refer to the regions in Table 2.

Notably, the superstars include five of the six largest CSAs in the U.S., excluding only Chicago, sometimes considered a semi-superstar. Seattle is the only superstar not among America's very largest cities.

The Challenge of Scaling Superstar Cities

While many civic challenges in superstar cities could be analyzed, this report focuses on the challenges of growth and scaling.

The word "scale" suggests *economies of scale*. Economies of scale are decreases in average unit cost as output grows. That is, companies become more efficient at production as they get larger. But the concept also applies to cities. Although municipal governments may not operate more efficiently as cities grow larger, important efficiencies can be obtained in the overall urban system. For example, researchers at the Santa Fe Institute found that, for every doubling of a city's population, much of its physical infrastructure—for example, the number of gas stations—grows only 85%.[11] The same is true for many types of infrastructure, including pipes, roads, and electrical wires.[12]

Other, non-cost-efficiency benefits from scale are especially relevant in the era of the knowledge economy. Cities are labor markets, and larger cities have thicker labor markets—that is, a larger number of employers and employees. Thicker markets are more attractive for workers as well as firms. According to economist Enrico Moretti: "In the case of labor markets, as in many other aspects of life, size does matter."[13] Large markets especially have an advantage in today's era of two-career households, in which both spouses must be able to find appropriate employment. Economists Dora Costa and Matthew Kahn found that couples in which both spouses have college degrees have been increasingly concentrating in metro areas with a population of more than 2 million people.[14]

Larger cities also benefit from knowledge spillover and other agglomeration effects. While physical infrastructure scales sublinearly with population, factors such as social interactions scale superlinearly. For example, when the population of a city doubles,

TABLE 3.

Key Infrastructure Changes in New York City

Item	Year	Description
Croton Aqueduct	1842	System of provision of clean drinking water to the city, subsequently expanded several times into today's extensive reservoir and tunnel system
Central Park, Park System	1853	A modification to the original grid plan to create a large rectangular park of 843 acres in Manhattan; required the acquisition of more than 34,000 lots and relocation of 1,600 residents
Railroad System	1853	Construction of a large system of freight, intercity passenger, and commuter railroad lines. Year listed is the date of the creation of the New York Central Railroad.
Bridge System	1883	Construction of major bridges linking the islands of New York City to one another and the U.S. mainland. Year listed is the date of the opening of the Brooklyn Bridge.
Telecommunications System	1889	Construction of telegraph, telephone, and data communications networks. Year listed is the date that telephone lines were initially buried underground.
Subway System	1904	Construction of large underground urban transit system, replacement of elevated trains in most of Manhattan. Year listed is the date that the first line entered service.
Airport System	1939, 1948	Building of airport infrastructure for the New York City region. Years listed are opening dates of LaGuardia and Idlewild (now JFK) Airports.
Freeway System	1963	Construction of a large system of urban freeways. Year listed is the opening date of the final segment of the Cross Bronx Expressway.

its number of patents increases, on average, by 115%. The same is true for a number of other indicators, such as GDP and income.

How Cities Scale

The history of New York City, America's largest municipality and largest metropolitan region, demonstrates the importance of making the right decisions about development and infrastructure for a city that wants to grow. It rose from a municipal population of 49,401 in America's first census in 1790 to more than 8 million in 2018, perpetually maintaining its status as America's largest municipality and urban region.

Though New York was an early adopter of zoning and building regulations, these were targeted toward legitimate public-policy concerns such as access to light and ventilation for apartments, or to ensure that sunlight would reach the streets. This regime allowed large increases in the amount of developed land, as well as high densities of development, enabling the construction of a significant amount of housing over an extended period.

During World War II, things changed. New York began implementing a regime of rent regulation. And in 1960, it implemented a new zoning code that effectively imposed a "population cap" by limiting the built capacity of the city. Prior to the new zoning code, New York City's population had grown from about 3.5 million in 1900 to 7.8 million in 1960. Subsequently, its population has grown to 8,398,748, an increase of only 7.9% over nearly 60 years, despite very high housing prices indicating robust demand.

Additionally, New York frequently implemented large infrastructure changes to support growth. Some of them are highlighted in **Table 3**.

Table 3 highlights only major events and is not exhaustive. Many of these systems were constructed over the course of decades and involved a series of major investments—some by government, others by private firms. There are also major infrastructural investments that may have been critical for the economic success of New York but were not specifically related to the scaling of the city (e.g., the Erie Canal).

New York is not the only city that made these types of investments. For example, many large cities undertook legendary and controversial water-supply projects. Los Angeles obtained water from remote watersheds, as famously depicted in the film *Chinatown*. Chicago reversed the flow of the Chicago River. San Francisco controversially dammed the Hetch Hetchy Valley in Yosemite National Park for its reservoir.

The End of Rescaling

New York scaled by allowing the market to provide much-needed housing and commercial space and by making the infrastructure investments required to support that growth. As noted above, significant intrusions into the market for real estate—particularly, rent control and the new zoning law—dramatically curtailed the ability of the city to increase its building stock. Effects of these policies were hidden for many years because they were implemented when America's large cities were experiencing declining demand. But today, the consequences are fully visible, as cities like New York struggle and fail to build enough housing at moderate prices.

Similarly, the era of successful major infrastructural transformation largely came to an end with the completion of the interstate highway system (approximately 1975–80), with the exception of the largely invisible construction of fiber-optic and wireless telephone networks. Infrastructural expansion today takes place incrementally, not on a grand scale (e.g., existing freeways are expanded, but new urban freeways are not built).

Factors Underlying the Failure to Scale

Why have cities lost the ability to scale today? This report identifies three factors:

1. Regulatory accretion and social change
2. Loss of civic capacity to grow during the decades of weak urban demand
3. Perceived lack of significant marginal benefits to growth by ordinary current residents (and even the perception of negative effects of growth, such as rising congestion)

Regulatory Accretion and Social Change

The rise of modern zoning laws—and, in the case of New York City and San Francisco, rent regulation—is only one factor constraining housing construction. Other legal and social changes significantly increased the complexity and degree of difficulty in undertaking major infrastructure projects. In 1970, the National Environmental Policy Act (NEPA) took effect, which required Environmental Impact Statements (EIS) prior to construction of major infrastructure. The EIS process took approximately two years in the 1970s, but has constantly grown since, reaching approximately eight years by 2011.[15] NEPA also provided a new legal mechanism for opponents to stop infrastructural projects through litigation. Longer project timelines made for more political risk, as the planning process would now commonly span several electoral cycles. For example, a proposed New York–New Jersey tunnel project, which had been agreed to by various parties in the two states, was canceled by Chris Christie when he was elected governor of New Jersey.[16]

A second legal change was the expansion of historic preservation regulations. There had long been a preservation movement in the U.S., but it gained expansive legal teeth with the National Historic Preservation Act of 1966, as well as local ordinances, which came in the wake of the widely decried demolition of Penn Station in New York City in 1963. By 2014, 27% of the lots, comprising almost 20% of the land area, in Manhattan were protected under historic preservation laws.[17] These policies restrict or complicate infrastructure development and curtail intense redevelopment in historic areas, which are disproportionately located in central city areas.

These legal changes reflected, in part, cultural change. In particular, the construction of urban freeways catalyzed a protest movement that became part of broader upheavals in the 1960s. Building freeways in already-developed areas of a city required large-scale eminent domain, demolition of existing structures, and residential and commercial displacement. At the same time, eminent domain and demolition were put to controversial use in the service of urban renewal and "slum clearance" efforts.

Today, many of these projects are viewed as mistakes. They created a significant and understandable public backlash. One of the most famous freeway revolts involved the proposed Lower Manhattan Expressway in New York, which would have required large-scale demolitions in Greenwich Village.[18] By the end of the 1970s, construction of new freeways through developed urban areas had largely ended in the United States.

These protest movements may seem like things of the past, but their effects linger today. The protests helped lead to the institutional structures, as well as increased political capacity in neighborhoods, that inhibit real-estate development. They helped create an environment in which regulation, as well as political activism to exploit that regulatory environment, has fueled

rising housing prices as building-stock expansion fails to keep up with demand.

Loss of Civic Capacity to Grow

America's superstars need to remember how to think like cities that are still in their growth phase. Many of them experienced population loss during the era of suburbanization and the "urban crisis." San Francisco lost population for three straight decades. These regions focused on accommodating suburban growth, and then fell to a slow-growth plateau. When their urban centers began revitalizing in the 1980s and 1990s, they had excess housing, transit, and infrastructure capacity because they had previously seen significant population and job declines. As they regrew, they could simply reuse this spare capacity without much new building.

Regarding New York City in particular, Nathan Glazer observed in 2007:

> If one asks what has been added in the fifty years since [Robert] Moses lost power, one has to say, quite astonishingly: almost nothing. There is almost no major work—park, bridge, tunnel, beach, parkway, expressway—that must be added to the Moses map to make it contemporary. New York is congratulating itself on its revival, and a revival it has been: its population has been growing, after fifty years during which it was static or declining; crime is very sharply down; real estate values are rising; financial and cultural industries seem to have in large measure successfully replaced its manufacturing and port activities. Yet the new dynamic city attempts few great projects, nor would it know how to carry them through.[19]

After decades of slow growth and stagnation, these cities lost the civic capacity to grow. Their civic and governmental orientation became focused on issues of decline, not facilitating growth. In part, this may be a result of complacency, driven by a perception that there are no real competitive threats to the dominant industries in these cities. While there may not currently be any domestic competitors that could immediately threaten to displace New York in the financial sector, or L.A. in the entertainment industry, city leaders should remember that markets are dynamic. If they do not address high prices, real competitive threats will emerge sooner rather than later.

Perceived Lack of Significant Marginal Benefits to Growth

The impact of regulation on housing prices is well known. Why, then, have cities not reduced this regulatory burden? For one thing, it is much easier to add than to remove regulation. But there are reasons that receive less discussion. One is the perceived lack of significant marginal benefits to growth, and even the perception of negative "diseconomies" of scale from growth.

There is some basis for these perceptions in the concept of Minimum Efficient Scale (MES). MES is the lowest volume at which a firm can produce a product at a cost point low enough to compete effectively—that is, the point at which a firm has captured all necessary economies of scale. MES shapes the structure of markets: if it is low, a market can have many competitors; if high, fewer competitors.

MES explains why, although there is a size threshold for entry in various markets and activities, volume above that threshold does not necessarily confer additional advantages. One example is professional sports. The minimum market size necessary to support a professional sports franchise in one of the four major leagues is somewhere between 1 million and 2 million people. Except for one anomaly (the municipally owned Green Bay Packers), there are no NFL, MLB, NBA, or NHL franchises in the U.S. in a metro area with fewer than 1 million people. At some point, a metro area reaches a sufficient population to effectively support franchises in every sports league. But further population growth provides less marginal return. Cities like New York may be able to support several teams in each league, or to have teams that can spend more lavishly, but the marginal amenity benefit to a region of a second team in a particular sport is significantly lower than that of the first.

Or consider labor-market thickness. As previously noted, couples in which both spouses have a degree have increasingly clustered in metro areas with a population of 2 million or more—so 2 million may be the population threshold for attracting dual-career families. Beyond that level, larger and thicker labor markets might further increase a market's attractiveness. But at some point, a market may reach a size at which its labor market is thick enough for most people, particularly in key local industries such as technology in the Bay Area.

The same holds true for many urban amenities and functions: nonstop flight destinations, restaurant quantity and variety, retail offerings, media outlets, and arts and entertainment. For most cities, population growth is desirable because the resulting increases in labor-market thickness, number of amenities, and types of amenities that can be supported are significant and valuable. But the superstar regions have probably already captured most necessary benefits of scale; any further increases in population may not increase the level and variety of amenities and urban functions significantly. Or, at least, the benefits of additional size are less obvious to the average resident or civic leader in superstar cities than in smaller urban regions.

The exception among superstars is Seattle. Seattle is not yet one of America's largest cities, which may explain why it is the fastest-growing superstar in terms of population. Perhaps local leaders and residents there understand that scaling up can still produce material new urban amenities (such as more nonstop flight destinations) and are thus more likely to support population growth than civic leaders in other superstar cities. Thus they have allowed more housing construction and invested heavily in infrastructure such as transit (see below).

This is not to say that there would be no benefits if the rest of the superstars grew larger. That would, for example, allow more people to move to these high-productivity locations, benefiting both those people and the overall economy. Economists Chang-Tai Hsieh and Enrico Moretti found that housing constraints reduced national GDP growth by 36% between 1964 and 2009.[20] In part, this relates to the superlinear relationship of social interactions to growth, as noted above.

Despite broad benefits to the economy, existing residents, even renters, in superstar cities may see population growth as a negative because of potential *dis*economies of scale, such as increased traffic congestion and pollution.

Although it has been widely noted that landowners, including homeowners, may prefer restrictions on development in order to increase the value of their land, this view may be shared by many existing residents of superstar regions, including non-landowners. Reduced housing costs would likely be welcomed by renters—but the attendant population growth is less welcome. Research by Michael Hankinson shows that urban renters in high-cost cities can behave similarly to homeowners in opposing new market-rate real-estate development in their own neighborhood.[21]

How to Reignite Growth

Restarting population growth in superstar cities will require a much more permissive regulatory and political environment for new building construction. It also requires cities to recover civic capacity to build new infrastructure to support that growth in an appropriate, timely, and cost-effective manner.

TABLE 4.

Wharton Residential Land Use Regulatory Index (WRLURI)

Superstar Region	Housing Market	WRLURI Rank (Index Value)
Boston	Boston, MA-NH	2 (1.54)
Los Angeles	Riverside-San Bernardino, CA	13 (0.61)
	Los Angeles-Long Beach, CA	18 (0.51)
New York	Monmouth-Ocean, NJ	3 (1.21)
	Nassau-Suffolk, NY	8 (0.80)
	Bergen-Passaic, NJ	9 (0.71)
	New York, NY	12 (0.63)
	Newark, NJ	14 (0.60)
San Francisco Bay Area	San Francisco, CA	6 (0.90)
	Oakland, CA	17 (0.52)
Seattle	Seattle-Bellevue-Everett, WA	5 (1.01)
Washington	Washington, DC-MD-VA-WV	23 (0.33)

Reduce the Real-Estate Regulatory Burden

The regulatory burden on real-estate development needs to be significantly lightened in superstar cities, which impose some of the greatest regulatory burdens of anywhere in the country. Although it is difficult to measure land-use regulation across jurisdictions, a good estimate comes from the Wharton Residential Land Use Regulatory Index,[22] which calculated a single numeric index based on several land-use regulatory components for 47 housing markets in the United States. The higher the index value, the more restrictive the land-use regulations. These markets do not equate 1:1 with superstar regions in this report, but **Table 4** lists the rankings for all available submarkets.

More than half of the top 20 most restrictive markets are in superstar regions. Notably, the Seattle area, the least restrictive superstar market in WRLURI, is also the least expensive superstar market in the Demographia price-income survey.[23]

If the superstar cities are to grow again, these restrictions will need to be loosened, which will first require reshaping the local political environment that currently allows activist groups to easily derail new developments.

However, regulations should be eliminated in a targeted and balanced way, and with consideration for other legitimate community priorities. The demolition of neighborhoods for highways, the destruction of communities through urban renewal, and the loss of important historic structures like Penn Station discredited previous policy regimes and helped create the current policy environment. Those mistakes should not be repeated. Blanket policies such as eliminating all single-family zoning in an entire state, as Oregon did, risk creating political backlash similar to that created by urban freeway construction.

Land-use liberalization can happen at the local or state level. While local control is a valid principle, states are responsible for overseeing local governments in the American constitutional structure. If cities and towns put up a "closed" sign by rejecting almost all new development, states ought to intervene. Because existing residents in many large cities are opposed to growth, targeted preemption of local control may be necessary in some cases. State intervention, however, is risky and should not be undertaken lightly. But even the credible threat of state intervention may force cities to address their problems responsibly.

California, with several superstar cities, has started to consider preemption. New legislation, introduced in 2017, broadly deregulated the construction of new accessory dwelling units.[24] Separately, California State Senator Scott Wiener introduced legislation known as SB 50 that would have overridden local zoning regulation to allow apartment construction near rail or bus rapid-transit stations, as well as in areas with significant numbers of jobs.[25] This bill stalled in the legislature, partly because opponents successfully argued that it was too broad. For example, a Los Angeles planning department study found that SB 50 affected 43% of the developable land in the city.[26] However, the current governor, Gavin Newsom, ran on a platform that included a promise to create 3.5 million new housing units in the state,[27] showing that housing prices have become a state-level issue in California. Continued state legislative efforts to liberalize land regulation, including the reintroduction of SB 50, are likely.

The focus of the state government's efforts in California has been increased density in existing developed areas. As urban centers have revived in popularity, greater density is important. However, adding density to the city center will not, by itself, address high housing prices. Additional expansion of the urbanized

footprint of the region must occur as well. Many of the restrictions on land development apply to new, lower-density suburban developments, a policy sometimes referred to as "urban containment" or "greenbelting." Seattle has an urban growth boundary that restricts urban expansion.[28] The Bay Area is planning to channel new housing development into existing transit corridors.[29]

As Nobel-winning economist Paul Romer explained:

> This is not an "either-or" choice. As a city grows, it increases its built area at the same time that already developed areas become denser. Cities in the developing world can meet the rapidly growing demand for urban floorspace only if they pursue both strategies. People who say that cities can meet this demand purely through densification have simply not done the math … If a city tries to limit the growth of the expansion area, you can be certain that this will make land artificially scarce and artificially expensive. If the government wants to provide urban opportunity for people who are poor, an artificially high price for land, which translates into artificially expensive housing, is a terrible mistake.[30]

Romer is discussing cities in the developing world with rapidly growing populations, but the underlying economics—restrictions on the supply of developable land increase its price—are the same in the United States. As urban planner Alain Bertaud says succinctly, "When containment policy is applied to a city, the main result is to increase both land and floor prices."[31]

Both densification in high-demand subareas and expansion of the urban footprint are needed. For superstar cities with high levels of land-use restrictions, state legislatures should adopt carefully designed and targeted laws that preempt local regulations and permit multifamily and mixed-use development in proximity to major transit stops and job centers, as well as repeal urban growth boundaries.

Infrastructure Scaling

New housing construction could support a larger population and lower housing prices in superstar cities over a short to medium-range time horizon; but ultimately, growth will be limited by infrastructure. Unlike land-use reform, which is politically difficult but financially cheap, developing new infrastructure will require investing significant sums of money.

For example, according to the Regional Plan Association (RPA), New York's three major airports serve 133 million passengers and already rank first, third, and fourth in the nation for delays.[32] RPA notes that while significant funds are being invested to upgrade passenger facilities, the Port Authority of New York and New Jersey, which operates the region's airports, is not planning any additional airfield capacity, despite a need for at least three additional runways. Many subway lines in New York City also experience regular crowding, yet there is little to no additional capacity planned. City and regional population growth of 25%—which Metro Austin has achieved since 2010—would not easily be accommodated by the current infrastructure.

America's superstar cities must not only renovate existing infrastructure, which, in some cases, is over a century old, but also put in place an expanded infrastructure platform to permit significant population growth. And they must do so despite the fact that American construction costs for some types of infrastructure, such as rail lines, are the highest in the world.[33]

Older superstar cities in Europe, particularly London and Paris, which face some of the same challenges as the U.S., are making transformational investments in infrastructure to scale and better integrate their regions with the urban center.

London is nearing completion of its first Crossrail line, to be known as the Elizabeth Line, a 73-mile regional rail link from east to west across the city that includes direct access to Heathrow Airport. It will link existing suburban lines via new tunnels under central London and serve as an express subway system within central London, much like the Réseau Express Régional in Paris. This link will significantly reduce travel times in the areas served and increase overall subway capacity in London by approximately 10%. About 200 million passengers per year are expected to ride this line, nearly the equivalent of the ridership of the entire subway system in Chicago or Washington. The current estimated price is $22.2 billion (£17.6 billion).[34] In addition, London is already planning a second regional rail link, a north–south line provisionally called Crossrail 2.[35]

Paris is constructing an even more extensive transit extension, called Grand Paris Express, a 124-mile, 68-station expansion of the Paris metro system into suburban areas surrounding the historic core municipality. The system will consist of four new rail lines and extensions of two existing lines with fully automated operations. It will significantly reduce regional travel times and carry a projected 2 million

riders per day. The current projected cost is $42.5 billion (€38.48 billion).[36]

Some superstar cities in America have made incremental infrastructure improvements, such as New York's recent Second Avenue Subway extension. But only Seattle is undertaking transformational development. Seattle has been investing heavily in transit development for many years, with success. Between 2000 and 2017, the city increased its transit mode share by 3 percentage points, increasing it from 7.0% to 10.1%, the sixth-highest in the country, now exceeding even Philadelphia. Only New York and San Francisco expanded transit mode share by a greater amount. Seattle voters also approved a $54 billion transit expansion plan, including significant rail expansion, which is in progress.[37] Whether this investment pays off will depend on how large the region grows and how much central business district (CBD) employment expands.

Los Angeles has attempted a similar transit-based transformation. Unfortunately, America's premier decentralized city does not have the characteristics necessary to support rail-based transit development of the type found in other superstar cities. Transit works best to serve large, important CBDs, but Los Angeles's CBD has the fifth-lowest share of regional jobs of any major American downtown, according to research by Wendell Cox.[38] Transit ridership has declined in Los Angeles despite billions of dollars of new rail construction. A focus on bus transit solutions may be a better option for Los Angeles.

Failure to create an appropriate and credible plan for infrastructure investments will only lead to more political opposition to new housing growth. Residents who already perceive little benefit from future growth are rightly concerned about what growth would mean for already-congested streets, trains, and airports.

Projects that could be especially beneficial include:

- ***Development of a Paris- or London-style regional rail.*** Regional rail would add frequency and capacity to existing commuter rail and could also serve as express subways within urban centers. TransitMatters, a transit advocacy organization, has issued a report outlining how this might be implemented in Boston.[39] MBTA, Boston's transit agency, is currently conducting a rail vision study that includes a full regional rail option.[40] RPA's Fourth Regional Plan includes regional rail elements as well. (BART, in the San Francisco Bay Area, is essentially a regional rail system.) The regional rail option is applicable to those superstars in which the urban core area is the focus of significant employment and significant high-value activities (i.e., not Los Angeles).

- ***Reallocation of public street rights-of-way in dense urban centers from automobiles to pedestrians and buses.*** In dense job centers such as lower Manhattan and San Francisco, it is impossible to increase space dedicated to automobiles as a means of supporting job growth. In Manhattan, congestion has sharply risen in recent years as average traffic speeds have slowed significantly. Sidewalks in parts of Manhattan are already over capacity and need to be expanded significantly. Automobile demand can be rationalized via congestion pricing, a system recently approved by the New York legislature and already in place in London, Singapore, and Stockholm. Congestion pricing and transit investment should support a significant reallocation of public space to pedestrians in the form of increased sidewalk capacity. Additional lanes could also be dedicated to bus service.

- ***Airport capacity improvements.*** Growth in population, business, and tourism will require the ability to process significant air-passenger growth. Superstar cities need a credible plan to expand airport capacity in line with growth, including new runways.

- ***Northeast Corridor high-speed rail.*** Development of true high-speed service in the Northeast Corridor would enable significant expansion of the labor shed for its superstar cities. It would do so by facilitating realistic commuting from Philadelphia to New York, as well as vastly improved commuting from outlying areas such as New Haven, Connecticut. This is an option that cannot be undertaken without significant reductions in costs over Amtrak's current proposals.

Unlike interior cities, coastal superstars probably cannot build significant new freeways because rights-of-way are unavailable in these areas and because, apart from Los Angeles, their high-income job growth is occurring in small clusters such as CBDs, which are less suitable for cars. While some roadway expansion can be undertaken, these cities will require significant transit development as well.

Conclusion

Superstar cities need to find ways to become growth cities again, in order to materially expand their population and number of jobs while reducing high housing prices.

Accomplishing this will require liberalization of land-use regulations and expansion of infrastructure. For land-use regulation, the first step is to avoid implementing or expanding policies that exacerbate supply problems, such as rent control or affordable housing mandates. Potential further actions include:

- Legalization of accessory dwelling units, as in California
- Upzoning to permit denser development near major transit stops (e.g., urban or commuter rail) and near bona-fide job centers (such as the CBD)
- Eliminating urban containment policies or reducing their scope

For infrastructure, cities and states must build credibility with the public in their abilities to plan and implement infrastructure improvements at reasonable cost and in a reasonable time frame. Potential projects that may be worth pursuing are increased pedestrianization of the urban center, development of regional rail or improvements to commuter rail, and airport renovation and capacity expansion.

The biggest challenge, however, is changing negative perceptions about growth on the part of current residents, not only by demonstrating that more people and jobs will not lead to more congestion and infrastructure stress, but by clearly articulating the positive benefits of growth.

Endnotes

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