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Urban expansion—will it ever stop?

This essay raises thought-provoking questions, contains many challenging details, and steps on some toes. It will arouse disagreement and maybe controversy. Everyone will do well to attend closely to the compelling problems it discusses of harnessing urban land—a resource that "holds economic forces of titanic power for welfare or destruction." By *M. Mason Gaffney,* associate professor of agricultural economics, the University of Missouri.

WHEN YOU walk down Main Street in any large city, each step takes you past several thousand dollars' worth of frontage. Frontage is a common measure of city land, and it goes by the foot, like a precious commodity. A front foot is a foot along the sidewalk with a strip behind it 100–150 feet to the rear of the lot. A foot on the right street is worth whole farms.

Among the dearest is State Street in Chicago, where some frontage goes for 30 thousand dollars a foot. At that rate an acre would bring 13 million dollars. Market Street in San Francisco runs up to 10 thousand dollars a foot. A foot on Fayetteville Street in Raleigh, N. C., is worth about 4 thousand dollars.

Why do these strips of otherwise common dirt command such prices? The answer lies in the forces of urban centralization.

Urban land, which serves a region much as the farmstead serves a farm, is a central storage base for collecting and distributing outputs and inputs and for sorting, processing, and reassembling them.

It is a center that affords easy, reliable access to enough volume and variety of resources to supply complex, specialized, continuous, and large-scale operations, and enough markets to absorb their outputs and byproducts.

It is a reservoir of goods and labor whose abundance gives the slack to allow flexibility of operations, meet emergency needs, and afford the innovator endless possible combinations of skills and resources to experiment with.

The city is a convenient gathering place where buyers can rely on finding sellers, and sellers buyers—a place to inspect, compare, and exchange goods and render and receive services. Its large local market attracts a variety of specialized goods and services. Its compactness permits cheap distribution, which in turn facilitates savings from large-scale central operations.

It is a central store of information and ideas—a place to confer and arbitrate face to face, to plan and administer, to do research and educate. It is a place where many minds can associate freely to stimulate, evaluate, and diffuse new techniques and ideas: In all, the brain, control, and power center of society.

Urban land commands a premium, too, as a place to reside. For living, as for business, its advantage is access to a wide selection of opportunities and associations.

Although it need not be fertile, or flat, or even dry, good urban land is scarce. The value of land for urban functions depends on its location relative to transportation, resources, and markets. Large-scale producers attach

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a special premium to the best lands, as they require access to the widest markets for economical operations. Being large, they also require large areas, so that competition for the best land is extremely keen.

The entire network of location factors defies simple analysis. But the greatest cities develop at strategic central locations, where they assemble and process many resources for many markets. Junctions and hubs of transportation have obvious merits, as do heads of navigation and other load-breaking points.

Good location is not enough to fit land for urban functions. Access, the basic urban resource, is partly man-made. The city enhances its natural advantages by pushing out routes to tap wider territories, but that is only a start. To realize its full potential, the city develops a network of local transportation—a system of general access through which its lifeblood moves.

So vital is transportation that most cities devote more than half their developed land to it. In 53 central cities—"central" meaning the major downtown city of a metropolitan region, excluding suburbs and satellites—which were studied by Harland Bartholomew for his book, *Land Uses in American Cities*, streets and alleys alone occupied 28 percent of the developed area.

Autos are voracious off-street land consumers, too. One parking space, with access lanes and a little to spare to allow for human weakness, preempts more than 300 square feet. The driveway and garage on a residential lot occupy about as much surface as the house. Many factories occupy less space than their own parking lots and loading and delivery aprons. The modern, auto-oriented shopping center allows 4 or 5 square feet of parking for each square foot of floor area. Filling stations are almost entirely open space.

Other forms of transportation are less demanding, but still they take a good deal of land. Railroads took 5 percent of the cities studied by Mr. Bartholomew, including much very costly land near downtown. Considerable space is devoted also to docks, bus terminals, airports, and easements for pipes and wires to transport water, gas, and electricity. Halls, elevators, and stairs take space inside buildings.

Most of this spacious network of public and semipublic lands dedicated to free movement yields little direct income, but the city can ill afford not to devote generous spaces to these corridors, which allow full release of the enormous productive forces inherent in specialization and exchange and give the private lands their value.

The final essential for productive urban land is the improvement of adjoining land. One lonely storehouse no more makes a city than one smoldering stick makes a fire. Assembled buildings compete for customers, suppliers, and use of public spaces, but generally they also complement each other so as to enhance enormously their overall productive value.

For the essence of urban value is access, and every resource the city adds increases the volume and variety of resources accessible to all. Each new seller is a magnet for more buyers.

Each buyer is a magnet for sellers, pulling trade from farther away, attracting more transportation routes and scheduled runs, and helping establish the city as the place to rely on finding what you want, selling your wares and services, and, in a dynamic, competitive world, keeping touch with the latest products, information, techniques, and ideas.

Each addition to the local market helps also to spread the overhead of more specialized and larger operations. Each new taxpayer shares the burden of large public works and improves the city's credit. Each new producer helps diversify the city's economic base and insure its stability. Each new seller tends either to bring in outside money or reduce leakages of money to outside sellers, and thus he creates new demand for local services.

A growing city therefore may enjoy a long stage of increasing returns, when

growth begets more growth. Thus the one best location in a region has a decisive advantage over the second best, and the earliest development has a commanding lead over later comers. The largest urban nucleus tends to snowball, while others shrivel.

The European scholar Georges Widmer has provided an interesting demonstration of increasing returns in urban growth. Widmer worked with Swiss census data, and published his results in the Revue Economique for March 1953. He found a direct relationship between size of city and several measures of per capita economic activity, such as wages and tax revenues.

A limit to increasing returns is the cost of transportation. The larger the city grows, the farther it has to range for markets and materials. And many cities are stopped short of this limit by the city fathers' fears of spoiling their markets, lowering rents, risking money on public works, raising wages and taxes, admitting outsiders, spoiling the fishing, or losing control of city hall.

But a number of metropolitan titans have burst these bonds to accumulate a large share of the population, capital, and the land value of the country. New York City (excluding suburbs and satellites) in 1955 had about 7.8 million people (4.8 percent of our population), and its annual real-estate taxes were 746 million dollars, 7 percent of the national levy.

THE GRAVITATIONAL pull of a city does not stop at its fringes. The center of gravity, the downtown district of maximum access, draws the whole city in upon itself, story on story. In this focusing of demand, the city finds further increasing returns from large-scale building.

The most economical layout to interconnect given space users is in three dimensions, in which central heating and other utilities can be distributed over shorter conduits than in two dimensions and each room has quicker access to most of the others. One roof and one foundation serve many stories. Inner partitions need not be weatherproof; the outer surface of a cube increases in less proportion than the space it encloses. So a large, multistory building provides given space, services, and access more cheaply than several small buildings.

There are limits to the economical height of buildings and to the amount of crowding people will endure, of course, and everyone knows that a conspicuous centrifugal surge started some years ago. But nevertheless a city keeps its basic cohesive tendencies, which are its reason for being.

JUST HOW LARGE an area cities occupy no one knows, for no one can say where a city ends. The United States Census defines "urbanized areas" roughly as those in and around cities of at least 50 thousand inhabitants. That was about 8 million acres in 1950, evenly divided between the central cities and their urbanized fringes. Eight million acres equals the area of Maryland and Delaware, 0.42 percent of the continental United States, and a little less than the 9 million acres in farmsteads. It seems a modest space requirement for its 70 million residents, particularly the 50 million in central cities.

The census has been conservative in its definition, for the area enclosed inside farflung urban outposts would be much greater. Eight million acres is the area of a circle with a 63-mile radius, or two circles with 45-mile radii, and stray bits from any one of our metropolitan giants may be found that far from its center.

But even the census' limited area is urbanized only in a loose sense. Despite the advantages of compact land use, central cities themselves are surprisingly patchy. In Mr. Bartholomew's 53 central cities, the undeveloped portion was about 29 percent. Although his surveys are not all up to date, many local planning surveys show comparable figures after 1955.

His developed urban land was about 0.06 acre per capita, or 5 yards on a

football gridiron. At that density, the 50 miliion inhabitants of central cities of more than 50 thousand use nearer 3 million acres than 4 million.

Even some of that 3 million acres they "use" only in a poetic sense. It is mostly open space. The area actually covered by buildings is probably less than 400 thousand acres, less than some western ranches and less than 15 percent of the developed area of the central cities.

No one expects that every building should occupy 100 percent of its site, but just how big a yard and grounds should be so as to be designated as developed by a building somewhere on it is a puzzle. Some urban buildings do occupy their entire sites, and by contrast such other sites as the 75 acres around Ford's new administration building in Dearborn seem nearer akin to undeveloped lands. No one can say exactly how we are to designate such lands, but some sort of allowance would certainly reduce the central cities' land "use" appreciably below 3 million acres.

If the central city is a little patchy, its outskirts are in shreds. Here, to be sure, are big users of land like golf courses, dumps, drive-ins, and airports, serving the central city. But it would be hard to define any segment of this nebulous territory that was not largely in weeds. Probably less than half the 4 million acres of urban fringe cited in the census deserves to be called "developed."

For cities under 50 thousand, our data are progressively less detailed.

Hugh H. Wooten and James R. Anderson, of the Department of Agriculture, estimated that all cities of more than a thousand inhabitants in 1954 occupied 18.6 million acres—about the area of South Carolina and 1 percent of the continental United States. Smaller communities may occupy another 10 million acres. But all these figures include empty spaces, which make up larger portions of the smaller cities.

As to urban values, they are prodigious. It is easy to underestimate them because of the comparatively modest space requirements of cities. There is nothing modest about the prices of urban land, however.

Residential lots in respectable established neighborhoods sell for 50 dollars to 250 dollars a foot and for more than 500 dollars a foot along a few gold coasts. Apartment sites average higher, going above 1 thousand dollars along Lake Shore Drive in Chicago. Slum sites are often held at fancy prices because of an expectation of future industrial, commerical, or public demand. Some subsidiary shopping districts sell for 1 thousand dollars a foot. The best industrial sites in large central cities command well over 100 thousand dollars an acre.

Prices of land out from the center are much lower, but still impressive, especially after the multifold increases since 1950. Undeveloped residential or industrial land along new superhighways was bringing several thousand dollars an acre in 1957, and more around New York City. Industrial acreage near Eastshore Freeway, Oakland, averaged 10,500 dollars as early as 1953. Potential sites of shopping centers brought 10 thousand to 50 thousand dollars an acre, as did motel sites near the better interchanges of the new turnpikes and thruways.

Airspace above the golden ground of the city also carries high price tags. An option on air over the Pennsylvania Railroad tracks in New York specified more than 3 million dollars an acre in 1955. A Times Square billboard brings 15 thousand a year.

At such prices, it does not take many cities to outvalue all the farms in whole States, and in most States one or a few of the largest cities do. New York City real estate in 1955 was worth some unknown but large amount over its assessed valuation of 20 billion dollars, which was the current market value of all the farm real estate in New York State and 19 other Eastern States. For the whole country, urban values exceed farm values several times over.

It may even be that urban values exceed farm values per capita. One cannot be certain. Land prices swing violently and rapidly, yet the only general source of data on urban values is from moss-covered tax assessments. Urban assessments are more obsolete than rural assessments—if that is possible.

But we do know how much taxes property pays. It may surprise some farmers to learn that farm property taxes are less per capita than nonfarm property taxes—roughly 54 dollars, compared to 72 dollars in 1956. Of some 11.7 billion dollars levied that year, farm property bore only 1.2 billion dollars.

The higher urban levies might reflect higher urban tax rates, rather than per capita values. The average rate on farm real estate, as reported in 1957 by the Agricultural Finance Review, was about 1 percent of market value. There is a general impression that urban real rates average higher—and some evidence to back it up. David Rowlands, of the University of Pennsylvania, in a report on the Property Tax in Atlanta and Other Large Cities, estimated effective tax rates in 20 large cities for 1956. Only 2 of them fall under 1 percent, and a few exceed 2 percent.

On the other hand, a study published in the Review of Economics and Statistics for February 1957 found otherwise. Scott Maynes and James Morgan, analyzing voluminous questionnaire data from the University of Michigan Survey of Consumer Finances and the United States Census Residential Financing Survey, found the real rate of property taxation on owner-occupied urban residences in 1953 to be nearly 1 percent.

They did not check the possibility that respondents may have tended to understate their taxes. Nor did they discover to what extent the low tax rates on owner-occupied residences resulted from homestead exemption, which would not apply to other classes of real estate. Still, it is other classes of real estate, especially rented slum and vacant land, that are most frequently found to be underassessed.

One might reason that city tax rates must be higher because city property pays city taxes on top of county taxes—although, of course, the most urbanized counties might have lower overall rates than predominantly rural counties. City people get more local governmental services, it is true, but they get them cheaper because they live closer together. They also have more non-property-tax sources of revenue.

Then, too, a census study under Allen Manvel found farm real estate overassessed—hence overtaxed by the counties—relative to urban real estate in 101 counties of downstate Illinois in 1946. Arthur Walrath found the same in several counties around Milwaukee in 1955. Remember, too, that an appreciable share of urban real estate is tax-exempt institutional ground.

None of these studies provides a solid basis for estimating urban real-estate values. The United States Census of Governments planned to release in 1958 what should be a definitive study of tax assessment ratios. Even that omits tax-exempt real estate from consideration, and also it omits suburban acreage, but still it may provide the first firm estimate of urban real-estate values in the United States.

Meanwhile, we have reasonable grounds for putting the real rate of urban property taxation between 1 and 2 percent, which means the aggregate value of urban real estate is of the order of seven or eight times greater than farm real estate. It is entirely possible that a 100-percent comprehensive reckoning, including tax-exempt holdings and suburban acreage, would reach as high as 10 times farm values, or 1 trillion dollars.

Other indirect evidences of real-estate values are the mortgages they carry. As of September 1957, the farm mortgage debt was 10 billion dollars, compared to 143 billion dollars on nonfarm residential and commercial real estate. Nonfarm real estate in 1957

probably carried a higher ratio of debt to value—it is impossible to say for certain because most real estate is unmortgaged. On the other hand, however, nonfarm mortgage figures do not include the debt on industrial, rail, or utility holdings, or on institutional and public real estate.

Several studies also indicate that urban families occupy dwellings valued at two to three times their annual incomes. This suggests that urban residences alone are worth more than 500 billion dollars.

These last two lines of reasoning yield no definite numerical estimates of urban values, but they do confirm the belief that they dwarf the value of farm real estate.

Real estate is more than land, of course, and conceivably urban real-estate values inhere largely in the buildings—we hear a good deal about the declining importance of land in an urban society. That may be a misconception, however.

Builders putting new single-family homes on cheap outlying land reckon the site at one-sixth or one-fifth of the total cost. But not many urbanites live in new homes on cheap outlying land. Even in 1957, after 12 years of record-smashing construction, 75 percent of all urban dwelling units were built before 1945 and most of them before 1929. There are almost no new residences in older central cities. A study by the Real Estate Board of New York in 1953 found that 80 percent of Manhattan's apartments were more than 50 years old.

In fringe areas, where new buildings do outvalue their own sites, a large share of the sites have no buildings. Around Cleveland, for example, 57 percent of the Cuyahoga County Planning Commission's "suburban ring" and 84 percent of the "rural ring" were vacant in 1954. In commercial districts, with their majestic frontage prices, it takes a new and substantial structure to match the site value.

All in all, from the limited information available, there is no reason to dismiss land value as a minor part of urban real-estate value, especially if we include vacant lands at their current market prices. It may even be the larger share. And, interestingly enough, the ratio of land to building values tends to be highest in the centers of large, densely populated, and built-up cities, where economic life is supposed to have lost touch with the land most completely.

A STRIKING ASPECT of today's cities is their rapid outward thrust. Urban values being what they are, cities gobble up farmland at will. There is no accurate survey of the wide and ragged urban frontier, but various estimates suggest it has been advancing recently about 400 thousand acres a year into the heart of America's farmlands.

Is this in the farmers' interest? Many thoughtful observers are raising voices in alarm for the future. The most vocal of them seem to think the city should be contained. There is another side to the question, though.

The city serves the farmer and buys his products. It is the farmer's interest that cities have ample land to serve him well. He would only suffer if he were to confine the city into a bottleneck between the barn and the table.

In fact, the city is all too likely to become a bottleneck, anyway, with no help from the farmer—but much to his detriment.

Because of increasing returns in urban growth, many cities in strategic spots have a measure of monopoly power over parts of their trade territories. Without the spur of competition, they are easily tempted to settle back comfortably and take their customers' money without the costs and bother of offering very adequate or modern service. Their strong position lets them do this simply by vegetating quietly without necessarily having any active monopoly motive. Because downtown sites are favorite investments for absentees and heiresses, too, a high proportion of them fall into ownerships that tend to resist progressive management and risky improvements.

There is competition within each city, of course, but the city fathers who are so inclined can minimize it by restrictive policies. They may lay out streets so as to limit the business frontage; maintain obsolete traffic patterns to protect vested investments; discourage new buildings by overassessing them relative to old—a practice that has become especially common since the war—and assessing undeveloped land at next to nothing; zoning out new developments; limiting the height of buildings; winking at tax-delinquent land speculators and selling off foreclosed properties only slowly; fostering obstructive building codes; endowing tax-free institutions with grounds vastly beyond their needs; neglecting essential public works and services; and refusing to act decisively against obsolescence and blight.

Whether by design, apathy, or sincere devotion to an obsolete tradition, probably most cities contrive to remain inadequately developed to serve fully the demands on them.

To protect themselves, the farmers' best assurance of adequate, modern, and competitive urban services may be to release lands for new development around stagnant central cities. With all its faults, such expansion does introduce new competition for farm trade.

The urban expansion bears critical watching, however.

Are efficient cities evolving—cities that distribute goods with minimum time, motion, and cost?

Are cities swallowing much more farmland than they need?

Above all, does the present pattern of urban expansion contain the same elements of instability that have brought most previous land booms to collapse?

To answer these questions, it is necessary to analyze the process of urban expansion more closely.

Like the eager suitor who leaped onto his horse and dashed madly off in all directions, the city moves out hither and yon with little apparent consistency or reason. Here is Washington, D. C., growing out from the back door of the Capitol, in defiance of its planner's best-laid schemes. There is the shopping district gravitating toward a high-income residential area, but radiating influences that create slums in its van and erode away the attracting force. Here are sewers without houses, while out beyond arise new houses without sewers. There is hardly any predicting where the construction crews will turn up next.

What are the builders seeking?

More space? There is considerable unused space in the central city itself.

Lower taxes? Fringe residents, scattered broadcast with more schoolchildren per capita and without the downtown commerce and industry to share tax burdens, in general must pay more taxes to finance given municipal services.

Surveys in 1955 by Amos H. Hawley and Basil G. Zimmer, of the University of Michigan, found fringe residents around Flint, Mich., actually more willing than residents of the central city to assume higher taxes. And it is evident that many people flee central cities in search of better schools and other costly public services that the city fathers are too parsimonious to finance.

Freedom from traffic? The farther one lives from jobs and markets the more traffic he must buck in between.

Freedom from restrictive policies? Often so—yet many suburban enclaves become more restrictive than the central city.

Of the many, many things that urban refugees are seeking, most are to be found in the central city. The refugees want municipal services, access to social and economic opportunities, and other urban advantages—but not at any price. To oversimplify a complex politico-socio-economic phenomenon, urban outmigrants, like the westward pioneers before them, are seeking cheap land. The very advantages of the city prove its major liability when they promote asking prices so high as to drive builders out of town.

The quest for cheap land leads the

city not just to expand, but to disintegrate. The quest turns very much on the individual seller. Asking prices for comparable lands vary widely with the seller's finances, tax position, information, sentiments, or just plain cussedness. Jack Lessinger, of the University of California's Real Estate Research Program, has found tentatively that in the Santa Clara Valley, around San Jose, it is the smaller farmers who succumb earliest to the city, and larger landholders who hold out longest. The French geographers, M. Phlipponneau, J. Tricart, and C. Precheur, describe the same tendency around Nancy and Paris. Buyers find a bargain here, another yonder, and build accordingly, so that development proceeds in patches and freckles.

State highway builders can stretch funds much further where the right-of-way is cheap. Besides, holders of cheap land are less likely to band into militant "Property Owners' Protective Leagues" and the like to block new thruways; and railroads are just as happy to see highway funds diverted to routes not paralleling their own. New highways, like railroads before them, often tend to bypass congested areas and develop earliest and most fully in less settled territory. They open wide new areas to hunt-and-peck development and establish new urban nuclei where they converge.

These outlying nuclei are bases from which even farther flung developments are launched. Especially along trunk routes, they coalesce into gangling, diffuse urban complexes that some writers, fancy running free, are describing as "polynucleated urbs," "conurbations," "cities as long as highways," "atomic megalopolises," and "scrambled eggs" and hailing, with enthusiasm or resignation, as forerunners of a new era.

Our first question was, "Are they efficient cities?" By any ideal standard they are not.

Transportation and utility lines to join the scattered pieces cost billions. The result at best is a poorly coordinated tangle. Commerce bypasses old bottlenecks but meets an obstacle course that consumes untold time and motion and can hardly avoid reflecting itself, among other ways, in a wider farm-market spread.

Such coherent patterns as do emerge are geometrically imperfect. Some variation on a linear theme, strung out miles along a railway, waterway, or highway, is commonest. But why go 20 miles west when there is open land 5 miles north? It takes three-dimensional development to afford maximum access at minimum cost among given users of space. Linear developments do not even use two dimensions, but force all traffic along one long, congested line. That, often as not, was built originally for through traffic.

One can probably understand how linear patterns develop: Cities fail to provide adequate two-dimensional street networks; and interurban trunk lines, financed by the State or National Government, offer ready-built, open-ended avenues of escape to cheap, accessible land. Landholders along existing routes can subdivide without dedicating 25 percent of their land for streets and without submitting to central controls over subdivision plans. But to explain is not to justify.

Our second question was: "Do cities need to swallow so much good farmland?"

We should probably concede the city first choice over the best land, even the most fertile, just as farmers concede corn first choice of the best wheatland. It may not make much sense to farm steep slopes in the Ozarks, but it would make less sense to put St. Louis there, to put Minneapolis in the north woods, and so on. But this hardly settles the question.

Cities, even central cities, are not using nearly the land they already contain. These undigested pieces are of negative value to the city itself. Cities exist to bring people together. Vacant and underdeveloped lands keep them apart and thus destroy part of the city's basic resources: Cheap distribution

and easy access. Even if land had no alternative use in farming, it would pay many a city to draw itself together.

Dispersion also forces heavier reliance on those hungry land gobblers, automobiles and trucks. Their demands for highway, turning, and parking space displace tens of thousands of dwelling units a year, scatter the city out farther, and consume more farmland. Dispersion requires that each plant, far from the storehouses and services of the central city, be more self-sufficient, which of course increases its space requirements.

It is especially out from the center, though, that cities preempt vast lands they do not use and may never use. Little urban fragments, prospering busily among fields and orchards, excite speculative hopes for land sales around and between them until urban price influence extends millions of acres beyond the city limits.

Urban prices have a baleful influence on farming. The dirt farmer has struggle enough financing title to lands priced by their anticipated income from agriculture alone. Urban prices push him out of the market completely. Landholders near cities must be speculators as well as farmers.

Often they are not farmers at all. High-priced lands in areas with urban possibilities tend to gravitate to those who have the financial power to wait.

Urban financial power is something few working farmers can match.

Federal income-tax laws tend to aggravate the dirt farmer's disadvantage, for they make speculative gains especially attractive to those in higher tax brackets. To begin, any interest and local taxes are fully deductible. Then the speculator may qualify for "capital gains" treatment—that is, for excluding 50 percent of any realized increment from taxable income, with a maximum tax rate of 25 percent on the increment. That is of great value to the man in an 80-percent tax bracket and tends to make him a high bidder in the market for appreciating suburban lands.

To qualify for capital gains treatment, the speculator must establish that he is not "in the real-estate business," but is a passive "investor," neither improving land for sale nor soliciting buyers. Or he may establish that he is "using the land in his trade or business" (other than real estate).

Should he lose on one sale he can offset the loss against other capital gains. Better yet, if he establishes that he is using the land in his trade or business, he can offset losses against ordinary income, even though any gains would not be taxed as such.

Still better, if it is his residence that he sells, and he puts the proceeds into a new residence within the year, the entire gain is tax free—and with a little effort a commuter may learn to "reside" over a considerable investment.

Best of all, one who buys land years ahead of his own needs never pays a tax on the rise of value so long as he does not sell—something many large corporations, with huge reserves "for expansion," have little expectation of doing. Wilbur Steger, writing in the National Tax Journal for September 1957, estimates that 90 percent of all capital gains were thus left tax free from 1901 to 1949.

The result of all this is a virtual scorched-earth policy for many lands around cities. Why risk any improvement or overt sales effort that might land you "in the real-estate business" and thus disqualify your increments from "capital gains" treatment? Why not hoard up vast industrial estates for "future expansion"? Should your alleged need actually eventuate and if the value of the land has gone up in the meantime, you will have achieved a kind of tax-free income. Should you sell, you can probably get capital-gains treatment for increments and ordinary offset for any losses.

For lands that do remain farmed, the influence of urban prices often means a wasting away of farm fertility and capital.

Dr. Lessinger has documented this phenomenon in his dissertation, *The*

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Determination of Land Use in Rural Urban Transition Areas (Berkeley, Calif., 1956). Around expanding San Jose, Calif., prune and apricot orchards are deteriorating as the city infiltrates the Santa Clara Valley. He analyzes the age distribution and bearing condition of orchards in different zones around the city and finds deterioration of orchards closely related to anticipations of urban demand, as reflected in land prices.

Thus the city takes land from the farm long before actually putting it to urban use. To a degree this is economical: Farm improvements are wasted on lands marked for immediate urbanization. But Dr. Lessinger's studies indicate that urban prices, with their blighting influence on agriculture, already extend over an area of the Santa Clara Valley well beyond any likely urban demand. Is this a general condition throughout the United States?

Suppose we allow the entire nonfarm population of the United States the luxury space standards of Winnetka, a Chicago suburb. With a golf course, spacious parklands, playfields, beaches, wide, tree-lined streets, two railroad rights-of-way, large lots and yards, private driveways and two-car garages, estate districts, and almost no apartments, Winnetka has 0.16 acre of developed land per resident—far more than the 0.06 acre in the 53 central cities that Mr. Bartholomew surveyed.

At the Winnetka standard, an urban population of 150 million would require 24 million acres—about the area of Indiana—which we can safely take as beyond any foreseeable demand.

The "regional cities" that enthusiasts are envisioning and promoters are touting along the Atlantic, Pacific, and gulf coasts, the Great Lakes, dozens of State freeways and turnpikes, resurgent inland waterways, and anticipated Federal-program superhighways (along with a more conventional accretion around established cities) by the simplest count exceed that 24 million acres by a wide margin.

Twenty-four million acres would be contained in 6 circles with 45-mile radii; or 24 circles with 22-mile radii; or 120 circles with 10-mile radii. As small a city as Eugene, Oreg., extends its price influence more than 10 miles from the center (not around a full circle), but there are 340 cities in the country larger than Eugene and the price influence of some of them radiates more than 50 miles. If that were not enough, there are thousands of smaller towns. A careful survey would probably show at least 100 million acres—the area of California—under the influence of urban prices.

The answer to our second question, then, is that cities are taking and leaving undeveloped more farmland than they need.

This raises the third question: "Can urban expansion continue?" Or have the onrushing urban armies overextended their lines and lost themselves in agriculture's defense in depth?

Many writers since 1955 have been projecting trends of the past 10 years forward another 20 years or so and viewing with alarm the startling inroads on farmland. History warrants few things less than it does projecting land booms far into the future. Cities typically have expanded in waves. May we expect the present wave to break and recede?

This also is a prospect to view with alarm. The enormous financial impact of urban expansion is a vital element of our prosperity. New construction, excluding farm and military construction, has been running around some 40 billion dollars annually. That is nearly 12 percent of the national income. It consists mainly of residential, commercial, industrial, highway, and public-utility building. Most of it is tied closely to urban expansion.

The role of construction in sustaining the flow of spending is greater than its volume alone would suggest. A good deal of purchasing power in most years leaks out of the circular flow of spending into savings and allowances for depreciation. The leakages must be offset each year by new investment to

avoid a multiple decline in national income.

A decline of annual investment under most conditions will produce a multiple decline in national income because consumption spending, which declines when income declines, is also a creator of money income. Lower investment means lower income. Lower income means lower consumption. That in turn means still lower income—and so on through several stages.

Autonomous declines in consumption would have similar multiple effects, but consumption usually is a relatively passive factor, which economists are inclined to treat as primarily a function of income itself. Investment is more independent and temperamental a variable, and probably most economists would agree that maintaining national income is in large part a problem of maintaining investment spending.

Of the investment on which so much hinges, 40 billion dollars of construction spending is a large share. It is also the most independent share. Other private investment is mostly in less durable goods—machinery, equipment, and inventories. Replacement and turnover of these are passive functions of time and income to some extent. Other public spending is mostly relatively rigidly committed.

THE IMPORTANCE OF THE third critical question is equaled by the difficulty of answering it.

On one hand, cities have rarely expanded rapidly without tragedy—neither, for that matter, has agriculture. We have experienced land development booms along wagon roads, canals, steamboat channels, plank roads, steam railways, horse railways, cable carlines, trolleys, subways, elevated railroads, and motor highways, with townsites and subdivisions proliferating on every hand. Most of the booms busted.

The disasters of 1819, 1836, 1857, 1873, 1893, and 1929 greet the tourist through history like bones bleaching by the trailside. Will future historians shake their heads sadly over the "second automobile bubble," as today they do over the first, and over the "canal fever," "plank-road delirium," and "railroad mania" of the past?

Perhaps—but, on the other hand, history is under no iron necessity to repeat itself. Optimists who seem to believe that collapse is unlikely today cite several reasons: Increasing population; strengthened monetary and banking regulation and insurance; Federal willingness and ability to spend; longer term, fully amortizable mortgages; more prudent subdividing practices; large private holdings of liquid assets; and other reassuring phenomena.

These are not completely tranquilizing, however, in light of the cocksure optimism that has preceded and even accompanied—yes, even followed—great crashes of the past. It is worthwhile questioning more closely the stability of forces that lead cities to preempt lands beyond their needs.

THE DYNAMIC PROCESS of overexpansion seems to be a complex urban variation on a familiar problem of agricultural land settlement.

The process in simplest outline is this: New demand raises land prices; supply responds slowly but massively; high prices over the long period of response ultimately stimulate more new supply than the demand can absorb.

Supply responds very slowly to demand because the process of converting land to urban use involves many steps by several slowly moving, poorly coordinated, frequently reluctant and sometimes downright obstructive public and private agents and because it usually takes land speculators a long time to release or develop most of the sites for actual service.

Say a new State-financed freeway begins the process of bringing farmland into an urban market. Besides transportation, the land needs water, storm and sanitary sewers, telephone, gas, electric power, schools, fire and

police protection, and sidewalks, to name some elementary items.

Not only are many services needed. Several steps must be taken to extend most of them from trunklines out through forks and branches to the ultimate distributive tracery that finally brings service to each parcel of land. Governments and utilities must decide to extend their lines and networks to individual parcels. Landholders must decide it is time to receive them—that usually means subdividing, dedicating lands for streets and easements for utilities, often paying for part of the utility extensions and street improvements, and perhaps being annexed and saddled with municipal taxes.

It would be nice for each party involved if all the others would commit themselves to development before he did—or at least when he does. Then he need only pluck the ripe fruit from the tree, instead of undergoing years of risk, interest, depreciation, and obsolescence while he waits for complementary investments to help his own pay out. The situation lends itself to a long impasse of "after-you-my-dear-Alphonse." At every stage, there is inertia, nostalgia, fear, and long bargaining and jockeying.

The final step—actual building on prepared lots—may be as slow as the others, for there are still the lot speculators to wait out. Even when all utilities are in, there is a further rise to speculate on as homes, stores, churches, and so on make a community.

We are also witnessing a sort of municipal land speculation on a grand scale. Many metropolitan suburbs have incorporated undeveloped land, which they proceed to overzone out of reach of the middle-class market. That is done in hopes that its exclusive tone will one day attract upper crust residents who will pay high taxes, handsomely support local merchants, and send their few children away to school. Many communities are ready to wait a long time for such profitable fellow citizens, even when chances of success are slim.

Ralph Barnes and George Raymond, New York planning consultants, warn in the Journal of the American Institute of Planners for spring 1955, that such municipal policies have become more restrictive than even the communities' parochial self-interests would dictate. New Canaan and Greenwich, Conn., New York suburbs, have actually increased the minimum size of building lot to 4 acres in some sections, in the most congested metropolitan area in the United States. Mountain Lakes, N. J., has gone so far as to buy up a large share of its land to forestall building.

Now scarcity breeds substitution, and while supply is thus developing so dilatorily in areas most logically destined for urban growth, the impatient demand probes outward. It finds a warm welcome in many outlying communities that have urban aspirations. Some of them even offer subsidies, tax favors, and sites to woo industries.

Moreover, a large share of building is outside any incorporated area. The Sacramento housing market is an extreme instance. An unpublished report of the Federal Housing Administration, dated April 1957, states that 80 percent of all private dwelling units authorized there from 1954 through 1956 were outside incorporated areas.

These latter-day pioneers demand utilities, which often are willing to come if the customers are there first, especially if rival sellers are within striking distance and if regulatory commissions let them balance any losses with higher rates charged to all their customers. The newcomers also demand public services, which usually come where there are votes and a tax base.

Thus the scattering of urban settlement leads the basic urbanizing distributive networks and services to proliferate over wider territories than the ultimate demand can absorb.

Just how wide and how empty these territories are is startling to discover. The New York engineering firm of Parsons, Brinckerhoff, Hall & Mac-

Donald surveyed land uses and potentialities in connection with its 1953–1955 report to the San Francisco Bay Area Rapid Transit Council. It found ample suitable acreage in the Bay area for the entire projected 1990 population of the whole State of California: 22 million to 31 million people—7 to 10 times the Bay area's population of 3 million in 1953–1955. This is allowing ample areas for recreation and industry.

The California State Water Resources Board surveyed the area independently in 1955, using aerial photographs, and published the findings in its Bulletin No. 2. For the 10-county Bay area metropolitan region, only 15 percent of the suitable urban land, or 10 percent of the gross land area, was actually developed for urban use in 1955.

In the crowded city of San Francisco itself, the Water Resources Board survey showed 23 percent of the usable land was undeveloped in 1955. Along the Bay side of San Mateo County (the "Peninsula"), which is often hastily described as having become "a solid mass of suburbs," 75 percent was undeveloped. On the Bay side of Alameda County, which includes Oakland and Berkeley, the survey reported 62 percent was undeveloped.

In the Santa Clara Valley (around San Jose), whose "total urbanization" is often forecast as imminent, 86 percent of the suitable land was undeveloped for urban use in 1955. The total suitable urban land in this valley, 155 thousand acres net of streets, exceeds the area used in 1955 in the entire Bay area (129 thousand acres, also net of streets). The developed portions, however, are scattered over the valley floor. By one estimate, 7 square miles of postwar subdivisions in 1954 were scattered over 200 square miles of Santa Clara County, with at least one subdivision in each square mile. Transportation and utility networks are or must someday be extended to most of these urban islets, and thereby to the lands among them.

The California Water Resources Board bulletin said that 65 percent of the suitable land was undeveloped for urban use in the Los Angeles hydrographic unit—that is, in the city of Los Angeles, the immediately surrounding cities, and the more or less urbanized unincorporated lands.

Another 1955 survey, Bulletin 87 of the Regional Planning Association of New Jersey, New York, and Connecticut, reported the following percentages of suitable land undeveloped in some of the counties of metropolitan New York: Bronx, 9 percent; Kings (Brooklyn), 44 percent; Richmond, 32 percent; Hudson, 21 percent; Bergen, 54 percent; Westchester, 63 percent; Fairfield, 81 percent. (They counted estates of 2 acres and more as "undeveloped.") For the entire 22-county, tristate metropolitan region, dotted from end to end with fragments of New York City and laced with transportation and utility lines, only 21 percent of the suitable land, or 16 percent of the gross land area, was developed for urban use.

To occupy these vast territories calls not only for transportation and utility networks, but also for enormous private investments in autos, trucks, service stations, and the whole complex of individualized transportation equipment. This mobilizes consumers to bring their demand to every nook and cranny of undeveloped territory. Scattered stores, schools, factories, churches, and other basic creators of urban land value also shed their influence on the included undeveloped lands.

The unfilled demand pushes upward, too. The high price of land stimulates more intensive vertical building (and generally closer economy of land) on a few sites than demand can begin to absorb over the entire area subject to urban influence.

HERE ARE THE MAKINGS of a cycle of overexpansion that should come to light when speculators holding the better lands try to find markets. But a great deal remains unclear.

Perhaps some land developers do plunge ahead under the sole stimulus of current prices, but it seems doubtful whether most investors would commit themselves for long terms without an eye to the future.

How shall we explain the tenacity of the speculators who confidently hold for a rise and the dauntless optimism of developers, builders, home buyers, utilities, municipalities, and still more speculators who invest in growing areas in contempt of mounting hoards of half-urbanized land within the market sphere?

ONE REASON for surplus development is that rival districts and cities race for position. Racing differs from economic competition, as usually conceived, in that races end. Where new population and transportation are opening and promising to open new urban potentialities, the fixed layout of routes becomes temporarily fluid. During the developmental period of uncertainty, several contestants vie enthusiastically for prized positions in the new pattern before it freezes.

Because of increasing returns in urban development, these positions, once established, are quite secure and should appreciate in value as outsiders flock to them. So it makes sense for each contestant to risk great resources in a race which most of them must lose.

Cities and districts race by improving themselves to attract trade, routes, and investments. They push out their own routes to capture undeveloped trade territory from rivals, just as some cities push out aqueducts to stake out scarce waters well ahead of need. Because the motive is to secure territory and position quickly before it is too late, extension of trunklines may proceed when the fever is high without much thought for immediately foreseeable demands.

Trade racing also helps explain the behavior of land speculators. Should a district win its race, it is primarily the land that would appreciate, buildings being duplicable. But should it lose, any buildings, being immobile and fairly specialized, would stand a good chance of finding themselves obsolete. The rational gambler therefore may often prefer to bet on the race from the sidelines by holding unimproved land, postponing building until the uncertainties of racing have been resolved.

He thus lessens his district's chances of victory by retarding its development, of course, but one individual is not likely to think his influence is great.

The irrational gambler also is a factor—a major one—to consider. With several contestants running for the same prize, the average chances of success obviously are not good. Yet land prices in each contending district often seem to run higher than the statistical probability of success would warrant, and the sum of the prices over entire developing areas seem to exceed considerably what would reasonably be justified by income from the land.

Just why this should happen is a mystery social scientists are only beginning to probe. Milton Friedman, of the University of Chicago, and G. L. S. Shackle, of Cambridge, England, have developed some interesting hypotheses about it. The fact that it does happen is well established, however. Economists of several generations have observed, with Alfred Marshall, a renowned Victorian economist, that ". . . if an occupation offers a few extremely high prizes, its attractiveness is increased out of all proportion to their aggregate value." Certainly the urban land market is of that description—frontage prices in some areas increase 100 times within a few blocks.

Just as gamblers who love gambling for its own sake will bet against a wheel they know is fixed, land gamblers bid up land prices higher and over more area than the possibilities of urban income can justify.

Perhaps the most powerful stimulant to demand for land is the emergence of a Malthusian climate of opinion. Opinion is a powerful agent in the land market because land prices are based on opinions of the future and be-

cause there is so little factual information to go on.

Try to find a simple statistic, like the number of lots subdivided annually in the United States or, indeed, in any region. Few jurisdictions compile even this information, and few of those include entire metropolitan areas.

Urban outskirts especially are beyond the ken of established centers of information—and it is in these far reaches that the greatest excesses have occurred in the past. There might be enough land prepared and preparing for urban use to swamp a metropolitan market for 20 years, and it is doubtful if more than a few real-estate men, who are not given to broadcasting such gloom, would be aware. Not until June 1957 has there been any semblance of an inventory for the Nation. That, compiled as part of the study of urban tax assessments by the Census of Governments, does not purport to tell anything about the lots other than that they are "of record."

We have no systematic data at all on more difficult but equally important questions, such as the trend of land prices, the number of unrecorded and illegally subdivided urban sites, the areas in various stages of partial urbanization, plans for impending redevelopment, and so on.

Land developers must grope to decisions primarily by the present feel of the market, without factual basis for the longer sighted analysis that is so essential to an activity whose product is as nearly permanent as anything produced by man.

And so, lacking information, the market relies on opinions, which always are in long supply. Some of these are based on careful inference. Others are sheer folklore or glib platitudes circulated by professionally optimistic salesfolk.

MANY STUDENTS of past booms have commented on the propensity of contemporary opinion, unsoundly based, to underestimate the emerging supply of urbanized land and overestimate the demand for it. It is possible to trace out several primrose paths by which opinion falls into these errors.

One is the plausible presumption that construction tends to exhaust the supply of urban land. The sight of childhood haunts covered with fresh masonry seems especially to stir deep Malthusian anxieties that find their way into poignant articles, indignant editorials, goading investment counsel, and finally urgent land hoarding that transcends prosaic computations of supply and demand.

Yet construction urbanizes as much land as it consumes, or more. Even if a city grew in a compact circle, the ring around its widening circumference would grow ever larger, roughly with the square of its radius. And because cities scatter out all over the landscape, building (especially of roads and utility networks) brings wide supplies of new land into the urban market.

Another primrose path is the equally plausible presumption that skyrocketing land prices reflect an acute scarcity of urban land. But this is to reckon without the vast supplies held in cold storage by speculators and holdouts of one kind and another. The economist's nightmare of inflation without full employment of resources has characterized land markets toward the close of every boom period.

There also seems to be a tendency to underestimate the regenerative power and absorptive capacity of downtown.

There is no denying that autos and trucks, unbound by central terminals and fixed routes, have made it more feasible to bypass downtown and thus have drastically weakened its central position. The big swing has been toward expansive, cheap-land, single-story development. But many persons in their enthusiasm tend to write off downtown land as though it had become as obsolete as the buildings on it, without due account of human factors like inertia, monopolistic thinking, absentee ownership, speculative land pricing, and restrictive policies.

Others seem to have accepted too uncritically part of the thesis of the late

Harvard economist, Joseph A. Schumpeter, and others, that capitalists require security from competition before they will risk funds in large investments like buildings.

But the sleeping giant downtown once aroused by the sting of effective competition and running scared is still no mean competitor itself. Decentralization has tended to deflate speculative anticipations that buoy up downtown land prices and thus has made the most expensive land in the world a bargain relative to outlying sites whose asking prices have multiplied since 1950. Downtown can rebuild and finally has begun to do so.

When downtown rebuilds, it still has the primary advantage of location that made it downtown in the first place—why run around end when you can step through center? And a few skyscraping hotels, office buildings, department stores, and apartments—as only downtown has the focused demand to support—can do the work of square miles of sprawl outside the city limits. 3–D development can work wonders with very little surface. In Philadelphia, for example, just one building, No. 3 Penn Center, increased by 4 percent the city's rental office space when it opened in 1955.

There has been a widespread idea that downtown building space is saturated. Yet the editors of Architectural Forum noted in March 1957 that the architect, Victor Gruen, retained to replan downtown Fort Worth, found that "the underused or derelict reservoir was large enough to provide space for a belt highway, parking garages for 60 thousand cars, greenbelts, a 300 percent increase in office space, 80 percent in hotel space, and new civic, cultural, and convention centers. . . . Fort Worth is not a special case. . . ."

The urban economic geographers, R. E. Murphy, J. E. Vance, and B. J. Epstein, discovered from a close study of eight central business districts that six of them were so decayed at the core that building heights in the zone of peak land values averaged much less than in the central business district as a whole. Large parts of the districts were taken up with what they considered "noncentral business district" uses, especially in the older eastern cities. Central business districts occupied well under 1 percent of the areas of their cities and thus had ample room to expand. The authors published their work in Economic Geography, January 1955.

In the downtown of downtowns, Manhattan's accelerating office boom accounts for much more than half of the postwar office space in the country. The postwar increase alone exceeds the total space in any other city in the United States. It is augmenting Manhattan's office space by 40 percent over 1946, yet—far from exhausting the land supply of that tiny island—it is contained in a mere 84 new buildings. And these are focused on two narrow districts, the financial and commercial centers, which are already most congested.

Homer Hoyt, an urban planning consultant, in his monumental *100 Years of Land Values in Chicago*, has shown how the percentage of Chicago land values contained in the Loop has risen and fallen many times in the short span of Chicago's lifetime from 1833 to 1933. Decentralization has not been a continuing process. In the development of American cities, both centralizing and decentralizing forces have worked. Now one dominates; tomorrow it may be the other.

Opinion often seems to stray, too, in interpreting the effect of a few skyscrapers and other intensive developments on future land values. Their advent convinces many landholders that high land prices can be met.

But multistory buildings are substitutes—enormously effective ones—for land. A few of them can pay high land prices, but to do it they drain demand from blocks around. To be sure, they are also magnets pulling trade to the city from miles away. But when cities all over the country are racing to the sky, outside competition tends to offset this benefit.

High buildings are symptoms of high land prices. But to let a symptom be a cause is to run a danger of circular reasoning.

If land prices are prematurely high to begin—higher than long-run supply-demand balance warrants—intensive vertical development must ultimately deflate the price balloon. The longer this deflation is delayed, the more the error compounds, and the more violent must be the reaction.

The same general lines of reasoning apply to horizontal urban expansion. This is land substitution, too, destined ultimately to cheapen urban land. Yet the psychological impact may be to create a feeling of central position that leads to higher asking prices, more horizontal extension, and a rude awakening some day.

ALONG WITH THOSE UNDERESTIMATES of supply there are overestimates of demand.

A prominent cause is exaggerated reliance on population forecasts. These have been notoriously unreliable in the past. Techniques have improved, but there is little warrant for the utter confidence with which forecasts are often repeated. But this is not the main point.

Population forecasts, if accurate, tell us something about the volume of "need," but not so much about effective demand, which is another animal, and the one whose power makes the economic world go round.

Some half of the postwar building boom has been to produce more space per person—that is, greater spending per capita has been as much a factor as greater population. Undoubling of families, which was one element in this trend, has now virtually halted—the average number of persons per household has leveled off at about 3.3 since 1954. The recent and immediately forecast swelling of population is in the relatively unproductive age groups under 18 and over 65. But neither babies nor aged dependents increase one's income or borrowing power.

Supporting them does tend to reduce breadwinners' savings. Many analysts translate this into increased effective demand. It may increase demand for toys and TV, but no factor that increases the urgency of present over future needs is likely to increase the investment demand for a long-term, deferred-income asset like title to land, especially undeveloped land. Reduced saving, higher interest rates, and lower land prices follow in logical sequence. More schoolchildren also mean higher real-estate taxes, which tend to reduce the investment demand for land.

Then there are two sources of demand that almost by necessity are only temporary but that operators on the field of action may be unable to distinguish from more permanent sources of demand.

One is demand premised on anticipations of rising land prices. High prices themselves, once realized, tend to depress demand, of course, but expectations of rising prices have the opposite effect. They increase demand not only from avowed speculators but to some extent from all land buyers, including builders and owner-occupants, who are as glad as anyone to board the price elevator on the ground floor.

This demand is inherently very unstable. On the way up, it helps fulfill its own expectations, in the familiar pattern of speculative markets wherein expectations of rising prices make prices rise. Eventually, however, even if higher prices fail to dampen expectations of further rises, they certainly increase carrying costs and dampen the basic demands of ultimate consumers.

Once prices stop rising, this unreliable element of demand is likely to collapse. If it is a large share of the total demand, its desertion will then let prices sink. Stability is next to impossible in such a market. Prices either continue up or turn down.

A second unstable element of demand is that generated by investment in construction.

Construction is largely a migratory industry, which creates temporary demands on local facilities in areas of

growth. This poses no difficult forecasting question around fly-by-night construction camps. But elsewhere it is all too easy to confuse temporary demand from construction spending with demand from more permanent sources. They are hard to distinguish in a complex, interdependent, growing urban economy.

A small confusion of this sort may be multiplied into a large error because of the leverage effect of outside money on the development of a region.

Because growth areas are capital-hungry as a rule, construction usually is financed largely from outside. Outside money flowing into an area serves as part of its economic "base"—that is, it sets up demand for local services and sustains it by offsetting the inevitable cash outflows.

Because local services account for roughly half of the incomes of most cities, each dollar of income financed from outside serves as "base" for another dollar or so of income from services sold locally. Then there are many market-oriented or camp-following industries, which move to an area largely because consumers are there ahead of them. When we consider them, a dollar of outside money may exert several dollars' leverage on local income, depending on the locale.

Because these local sellers also require buildings and urbanized land with utilities for working and living, they set up demands for more construction, which means more outside money—and so on. Such a sequence, once started wrong, can send development veering off course like a sliced golf ball. We have seen this happen in the midst of our postwar prosperity around the atomic boomtowns of Portsmouth, Ohio, Paducah, Ky., and Aiken, S. C. With full foreknowledge that construction payrolls were temporary, these three communities contrived to overbuild anyway, and each suffered its depression-in-a-teapot when the crews left town.

Expansion of local banking often adds to the possibility of error. Outside money flowing in increases the reserves of local banks and encourages them to lend. Under our banking system, they can expand their loans by more than the increase of reserves. This expansion would generally lead to drains on reserves that would stop it short. But it need not happen immediately, especially in a booming district, where much of the banking system's new loans come back to it in new deposits. The expanding loans of local banks meanwhile, serve like outside money, as part of the economic "base."

The situation may be complicated once more where outside money flows in, not simply to finance construction or buy land, but to speculate in the extreme sense of the word—to buy and sell and buy again. It is well known that New York banks have large deposits held to speculate in Wall Street. When a city or district catches the imagination of the more colorful part of the investment community, funds pour into its banks for similar purposes. Homer Vanderblue, then of Harvard University, found that bank deposits tripled in 14 months of 1924 and 1925 in the Florida land boom, only to flow out rapidly with the crash.

The wisdom of investors, or at least their conservatism, might seem proof against this sort of folly. But investors in boom times have been notoriously susceptible to fads and stampedes.

Homer Hoyt laid down as a general rule: "In each successive land boom there is a speculative exaggeration of the trend of the period. . . ."

And as long as outsiders are ready to finance it, there is nothing to stop a new district or town from prospering while the residents, exporting little but mortgages, deposit slips, and land titles, simply build the place and take in each other's washing.

Outside investors are not going to do this knowingly. Jacob Stockfisch, economist at the University of Wisconsin, maintains that individuals can foresee tolerably well the complex interactions of their investments with those of others and trim their sails so

as to achieve an orderly integrated economic development. But history leaves little doubt that this ideal behavior presupposes a foresight and exchange of information which fallible, suspicious man seldom achieves.

We return to our third critical question: Can urban expansion be a stable process?

A pattern of expansion that stimulates vast oversupplies of urbanized land to meet a demand that is partly collapsible obviously presents some danger of instability. The United States Census of Governments, in its Advance Release No. 3 for 1957, reported the number of vacant lots of record in the United States at nearly 13 million (not counting parking lots). That is 21 percent of all city lots, and about 13 times the annual consumption in new construction.

The census figure does not purport to be more than an aggregation of local records, and some of the "lots" recorded are no doubt that in name only. On the other hand, some actual lots never find their way into local records. And the figure is especially striking in light of the universal observation that subdividing land for sale of lots to avowed speculators has been at a minimum during the postwar building boom, with its emphasis on mass-produced suburban developments from which lots are sold only underneath houses.

The larger part of the land hanging over urban markets is acreage not yet subdivided into lots, but with ready access to farflung urban transportation and utility networks.

A study of Greensboro, N. C., in 1956 by George Esser, Jr., of the Institute of Government of the University of North Carolina, found 125 thousand persons scattered over a quasi-urbanized area big enough for all the needs of 600 thousand. We have no reason to believe that that is anything but typical of American cities.

Will private and public developers add indefinitely to so swollen an inventory?

Will speculators and holdouts want to continue meeting the rising carrying costs on just the present supply?

Will lenders continue to extend credit on such hazardous collateral? With 143 billion dollars in nonfarm residential and commercial mortgages (in September 1957), could the credit system stand a real-estate collapse?

No one knows for certain. History puts the burden of proof on the affirmative. Cities have rarely expanded other than in crashing waves, and today one sees several portents reminiscent of previous crests.

Some of these portents are:

The rapid, manyfold rise of land prices around growing cities since 1950;

the sharp rise of construction costs;

the wildfire spread of municipal zoning and regulations very hostile to mass-market building;

the decline of residential construction since early 1955, coupled with an increase of land-substitutive construction in extensions of roads and utilities, and multistory buildings;

the disproportionate increase of transportation costs and utility rates since 1950;

the disproportionate increase and high level of residential and commercial debt. (Its average annual increase has been 9.5 billion dollars from 1945–1956, and its annual percentage growth rate 14.4 percent over the 1946 base. That compares to 2.2 billions, and 9.4 percent, for the period 1920–1930. In September 1957, it reached 143 billions, 48 percent of disposable personal income. That compares to 37 billions, and 45 percent, in 1929.);

the general deterioration in the quality of credit, as noted by Geoffrey Moore, of the National Bureau of Economic Research, and others, and as exemplified by the growth of second-mortgage financing;

the high level of interest rates;

the almost universal confidence that growing population and living standards are pressing on the land supply

and insure a continual rise of land prices.

The result of these combined causes will depend largely on human response, private and public, which few would be so bold as to forecast.

Past mistakes, if that is what they are, have not trapped us in any dilemma beyond the power of informed, intelligent action to resolve.

It is heartening to see so much concern quickening today over problems of urban expansion. There is hope that today's more literate and prudent American public can avert the disasters that beset the past.

But whatever the immediate outcome, the public and its representatives, including farm-dominated State legislatures, would probably serve themselves well to attend closely to the compelling problems of harnessing urban land. This resource holds economic forces of titanic power for welfare or destruction. Harnessed, these forces could serve the public commensurately with their unrivaled market values. Untamed, unpredictable, and irresponsible, they could figure in a national calamity.

Indeed, they have already done so in a measure. The disintegration of our cities could be described conservatively as a national calamity of some proportions, whose mischievous consequences only wait to be recognized. To forestall more of the same, the reasoning of this chapter suggests that policymakers might do well to take steps to lower the prices asked for urban lands.

The thesis of this chapter is that urban land prices are uneconomically high—that the "scarcity" of urban land is an artificial one, maintained by the holdout of vastly underestimated supplies in anticipation of vastly overestimated future demands. I think this uneconomical price level imposes a correspondingly uneconomical growth pattern on expanding cities. High land prices discourage building on vacant lands best situated for new development and divert resources to building highways, utility networks, and whole new complexes of urban amenities so as to provide and serve substitute urban lands further out—substitutes for something that is already in long supply. Not only is this pattern wasteful of time, steel, cement, gasoline, and good farmland; it founds national prosperity on the film of a land bubble.

And so it would seem wise for policymakers to set about lowering asking prices for urban land. But here they meet a dilemma. What stimulates building is not falling prices, but the end result of the fall—low prices. Falling prices themselves tend to depress building. Few there are who want to invest their money on the foundation of a sinking land market.

Policymakers are tempted to put off the day of reckoning, to tolerate and, in fact, actively support high land prices. But the irony of such policies is that they stimulate development of still more substitute urban lands, and set the stage for more drastic ultimate collapse.

There seems one obvious escape from this dilemma. As it must be done, do it quickly. Bring land prices down fast, and get it over with.

If this is a desirable policy, however, history offers little comfort that it will be enacted without painful changes in established attitudes. Squeezing the water from speculative land prices has usually been a slow process of attrition, with public agencies often bending their efforts toward delaying the inevitable as long as possible, while building stagnated.

But whatever policies are desirable, I believe there certainly is urgent need for public-minded citizens to agree on what those are now, before an emergency strikes. For the suburban land boom shows many evidences of evolving along the same lines as its notorious predecessors, which have confronted us with several of the most trying crises in American history. We can ill afford to meet one today as indecisively and ineffectively as in the past.

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