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INSPECTORS

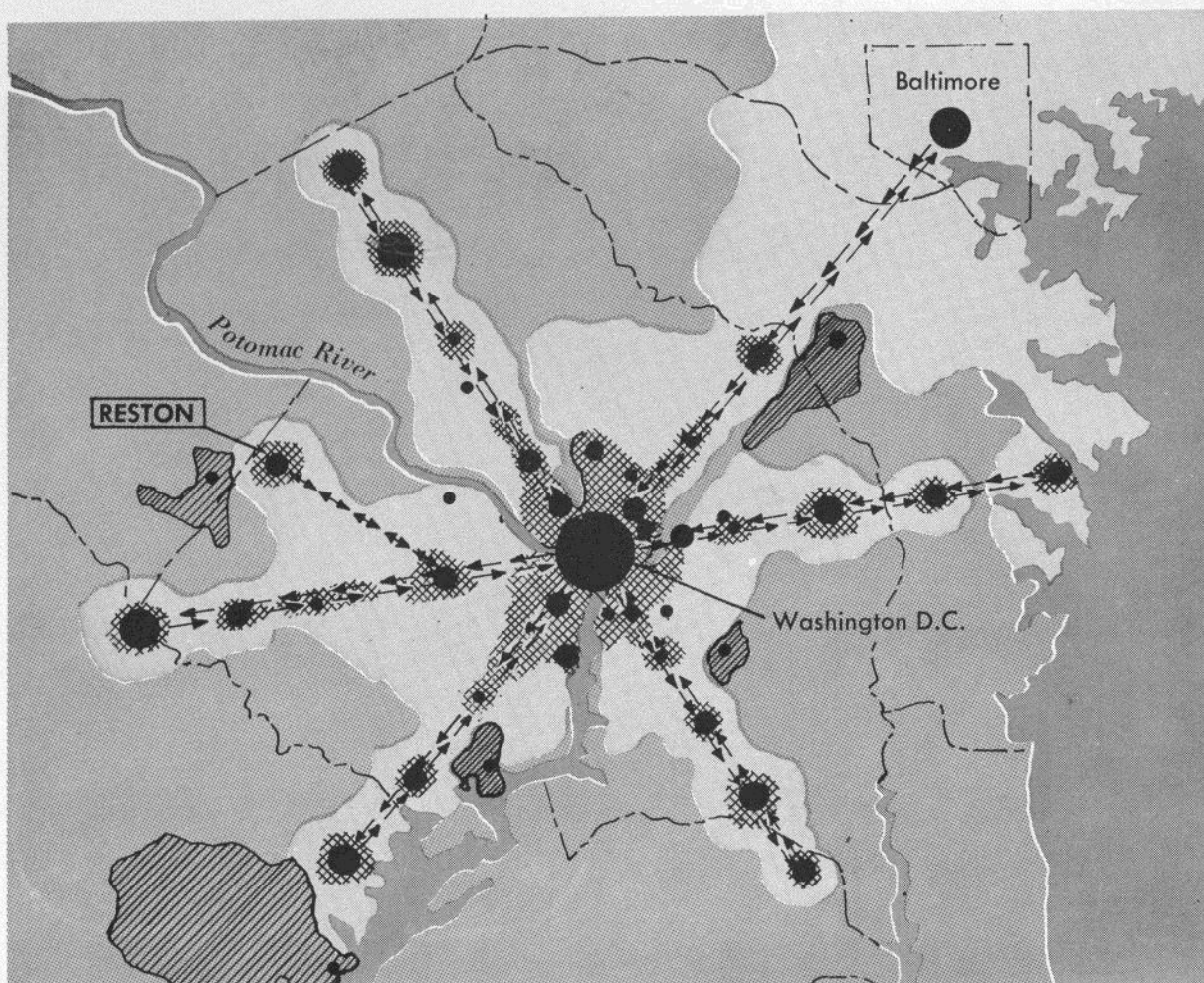
Are they the weak link in public construction?

RESTON



**The new town planned
to stop urban sprawl**

Fitting Cities to the Future



Washington's Year 2000 Plan calls for satellite cities on radial transportation corridors.

Reston Starts Year 2000 Plan

With this report on Reston, Va., ENR temporarily shifts the focus of its Fitting Cities series from the rebuilding of decaying central cities to a plan for controlling metropolitan expansion. Nearly all of the estimated 80 million Americans added to our population during the next 20 years will live in the suburbs of our exploding metropolises. Reston illustrates vital planning principles for controlling the chaotic sprawled development that, for the past two decades, has consumed land with reckless abandon, created traffic jams and driven community service costs skyward.

As part of the national capital's Year 2000 Plan, endorsed by the late President Kennedy in November, 1962, Reston is the first of 20 satellite cities proposed to absorb the major part of the area's soaring population, which is expected to rise 150% from its present 2 million to 5 million in 2000 AD. The

Year 2000 Plan calls for future development in a pattern of transportation corridors that would radiate from downtown Washington (map). Along these transportation corridors would be rapid transit with tracks in freeway center strips or in their own rights-of-way. Satellite cities spaced along the corridors would permit the conservation of large wedges of open space, and thus preserve the recreational amenities of open countryside within reasonable distance of the region's 5 million inhabitants.

If past trends continue, according to Washington planners, the area's growth over the next 35 years could consume 1,700 square miles, four times the present metropolitan area. Uncontrolled sprawl would drive the boundary of the open countryside 30 miles from downtown Washington, create crazy-quilt travel patterns, spread traffic congestion, and increase the cost of trans-

portation and the other public services.

Of more immediate significance than its role as a satellite city is Reston's role as a "new town" in the British tradition. The new-town concept complements the satellite-city concept, reducing the principles underlying the regional plan to a more intimate, local scale. Some so-called new towns in the U.S. are little more than vast subdivisions, aggravating the sprawl they are supposed to control. But Reston illustrates all the essential features of a new town—the surrounding green belt, local industry, varied housing zoned for different densities—plus some recreational bonuses.

Fortunately, Reston's roles as satellite city and new town are largely independent. Even if Washington fails to achieve its Year 2000 Plan, Reston can still stand as an example of good local planning.

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SLENDER APARTMENT TOWER, rising 15 stories from lakefront site, will be a landmark for the first village center, planned as the focal point of community life. **SINGLE-FAMILY HOUSES** that are attached required a cluster amendment to zoning ordinance.



A prototype community, where the lubricant of planning promises to reduce many frictions of ordinary urban life, is welcoming its pioneer settlers.

By 1980, some 75,000 citizens of Reston, Va., should be enjoying a totally planned community where fishermen will cast from their lakefront lawns, golfers will live on fairway-bordering home sites, and horsemen living in their own equestrian village will ride to a main street complete with hitching posts. Trees and other greenery will abound in seven village centers designed for varied communal life. Pedestrians will have an independent walkway system isolated from automobiles. And the trip to work may be just a stroll around the corner, instead of a long drive.

While avoiding the drab, institutional look of the earliest of Great Britain's government-built and managed new towns, Reston's plan incorporates all of their essential elements. Like two early prototypes founded by the planning prophet, Ebenezer Howard, contemporary British new towns incorporate three basic features:

- A surrounding green belt maintained largely undeveloped by strict government control.
- Self-sustaining industry and other jobs that provide local employment.
- Varied housing—apartments and single-family dwellings.

Reston will occupy 10.6 square miles of rolling pasture and woodlands in Fairfax County, Va. The site is split by a freeway linking Washington, D.C., 18 miles east, with the Dulles International Airport, 4 miles west.

Construction began in the spring of 1963 on the first of Reston's seven village centers. The other six are planned to follow in stages, with completion of some \$700 million worth of construction by 1980. About 60% of the land will be zoned residential, 23% will be devoted to parks, lakes, golf courses, and other recreation and 17% industrial and government area, village centers and a town center densely developed like a central city's downtown district.

• **People magnets**—The recreational lures for Reston's homebuyers were clearly visible before anyone bought a house. Already completed at Reston is a championship 18-hole golf course and its clubhouse, to be followed by others. A 30-acre artificial lake, dammed and almost full, forms a waterfront setting for the first village center. From a lakeside mall, a 15-story concrete apartment building that will be a landmark is rising. Nearby, a two-story building whose crescent shape encloses a lakefront plaza is nearing completion. It will contain such varied things as a cobbler shop, an art gallery and a teen-age rathskeller on the ground floor. Above, in second-floor apartments, will live Reston's most dedicated urbanites, the people who want to be where the action is.

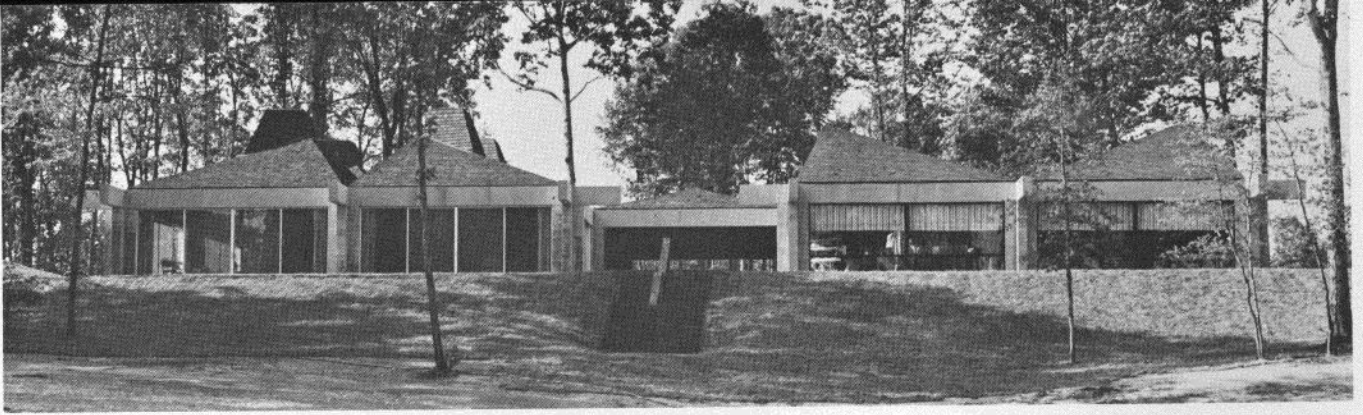
The success of this developmental approach is already evident. Land purchased at an average cost of \$1,900 per acre is now selling at prices up to 15 times as much for fully serviced lakefront or golf course sites. Local builders have been paying from \$4,200 to \$10,000 for lots ranging from one-fifth to

one-half acre. "If we had them ready we could sell 200 additional lots," says Glenn W. Saunders, Jr., manager of Reston's engineering division.

Prices for the first town houses and detached single-family houses range from \$23,000 to \$47,000. The next group of townhouses will drop the lower limit to \$18,000. Before it is completed Reston should have housing to suit the income of anyone who works there, possibly including federally aided low-income rental apartments.

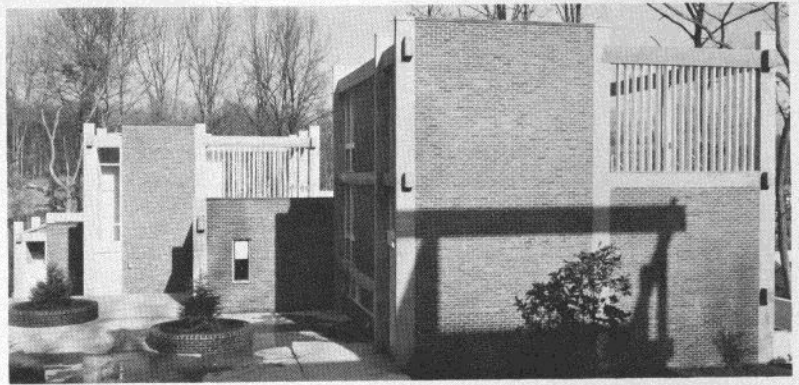
The developer, Simon Enterprises, Inc., of New York City, plans a gradually increasing development pace, stepped up to 1,100 residential units a year in 1965 and 1966. Reston's three pioneer families will get neighbors in the spring, when the first village's 65 single-family detached houses, 227 attached houses, and 113 apartment units are completed. The proportion of the three types of units will vary to satisfy the projected demand. Preliminary planning calls for 70% attached houses, 15% apartments and 15% detached houses, but the master plan is flexible enough to accommodate changes.

Construction of detached single-family homes is the one phase of construction Reston leaves entirely to local builders. Land complete with utilities is sold to builders or to individuals who contract for construction of their houses. Reston has been general contractor for all phases of the project, with exception of a \$3.6-million general contract let to Eugene Simpson & Brother, Inc., of Alexandria, Va. to build the first village center.



CLUBHOUSE designed by Charles M. Goodman overlooks 18th green of championship golf course that winds through the site.

CLUSTERS of attached houses, planned for 70% of dwelling units, are built in medium- and high-density residential areas.



Concurrent with the residential and commercial construction is an industrial building program with varied arrangements for leasing, buying, or building. Reston's Group Facilities Complex, partly completed now, will ultimately contain 370,000 sq ft of space for light industry. Five industries already committed to Reston will provide more jobs than the total working population of the first 340 homes in the first village center. Supplying jobs for residents is a goal that the town must achieve to avoid becoming merely another commuters' suburb. Since the Year 2000

Plan calls for government growth in satellite cities, Reston's managers hope eventually to get a large federal office to supplement a supply of jobs in industry, retailing, local government, professional and other services.

Mr. Saunders estimates that 60% of Reston's working population will work in Reston; Developer Robert E. Simon's less optimistic guess is 30%.

• **The battle for cluster**—The key to Reston was a cluster-zoning amendment that permits the developer to build in varied densities and reserve land for

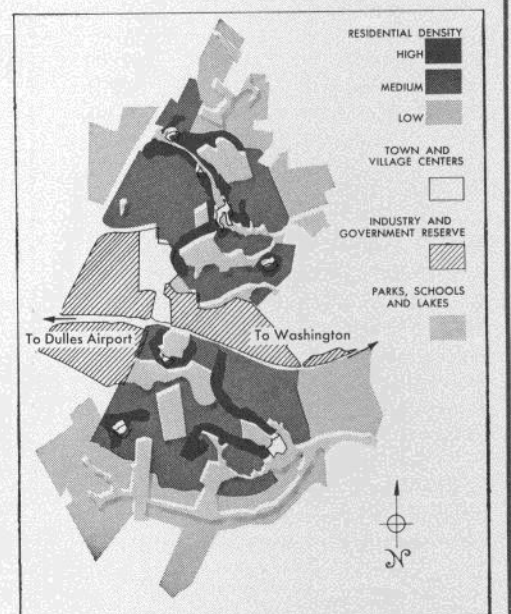
parks and other open space instead of spreading houses uniformly over an entire tract. Reston's cluster-zoning permits three residential densities—60, 14 and 3.8 persons per acre, with an average limit of 11 persons per acre.

In most suburban developments, zoning and subdivision regulations magnify the earth-scarring work of the bulldozer. But Reston's development pattern follows natural contours, with sinuous high-density bands threading through the site. Thus, cluster zoning pleases the planners by bringing trees and greenery close to all. It also pleases

The Master Plan



VILLAGE CENTER (above) concentrates varied activities on lakefront. High-density residential bands (right) weave through the 6,800-acre tract.



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the builder by lightening land preparation work and reducing the cost of utilities and roads.

Opposition to the cluster-zoning amendment was expected from Fairfax County's older residents. But the opposition of local builders was surprising. Fearing that they would be squeezed out of Reston's construction, local builders claimed that the cluster-zoning amendment and the master plan favored big builders. After nearly two years of controversy, however, and about 100 planning meetings, conservative members of the Fairfax County board of supervisors were finally convinced and voted the necessary change.

The school crisis played a big part in winning the fight for Reston. One of the nation's fastest growing counties, Fairfax has been struggling with bulging classrooms and increasingly expensive school sites. As urban sprawl spread westward from the eastern third of the county, already covered with housing developments averaging about three lots per acre, the search for school sites became more hectic and expensive. A planned community with 20 pre-selected school sites donated by the developer was an irresistible attraction.

• **Growth without pain**—In addition to smoothing the path of growth, Reston promises to reverse the public deficits piling up as conventional residential developments roll over the countryside.

"Urbanization has traditionally been a subsidized operation," says William H. Moss, former chairman of the seven-man county board of supervisors. "A new town with integrated industrial and commercial districts promises to break the vicious spiral sinking us in a deepening financial hole."

To offset the cost of each new homeowner settling in a subdivision, the county could only hope that sufficient tax-paying industry and commercial development would spring up to offset the residential deficits. But within five years, Reston's concurrent commercial and industrial development will make it a financial asset to the county, says Mr. Moss.

Not only the industrial-residential balance, but the economy of the compact layout contribute to the public savings of a new town over the typical sprawled development. The county's per-capita operating costs for the typical sprawled development are nearly 2½ times the estimated per capita costs for satellite cities. For schools, road maintenance, streets, water supply, sewerage, police and fire protection, garbage collection and other public services, the county had spent \$20 million for a population of 200,000 in 1960. That

same \$20 million could have financed the equivalent services for 465,000 people in satellite cities, say Fairfax County planners.

A development bonus clearly gained from the compact layout of apartments, attached houses and commercial buildings in the first village in community air conditioning. From a central refrigerating plant of 1,200-ton capacity, chilled water will flow through four miles of underground piping to cooling coils concealed in plenums above the buildings' furnaces. For the widely spaced detached single-family houses, however, the excessive length of chilled-

water piping spoils the inherent economy of central refrigeration; so these houses will have individual systems.

• **Keep the wedges green**—Preservation of a largely undeveloped green belt, essential to Reston's function as a satellite city in the region's Year 2000 Plan, depends on several controls. A county prohibition of building in a 100-year flood plain, and the capacity limits of the sewer system imposes other controls. But the main control is an acquisition program by the County Park Authority.

Hopefully, Reston will inspire public demand for planning and order.

The men behind the plan

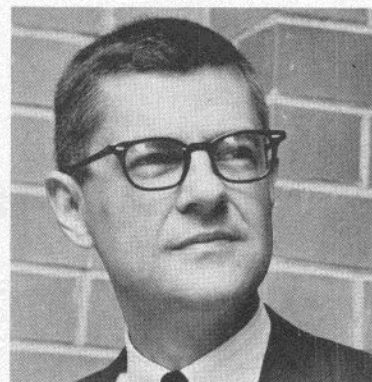


DEVELOPER Robert E. Simon, Jr.

Reston's founder is Robert E. Simon, Jr., president of Simon Enterprises, Inc., of New York City. Shortly after his graduation from Harvard University, Mr. Simon, then 21, took over the family real estate firm and became manager of Carnegie Hall. Now an urbane, youthful 50, he revels in his role as art patron and city builder.

Visits to British and Scandinavian new towns inspired Mr. Simon with the urge to build one, and he got his opportunity when Simon Enterprises was offered a 10½-square-mile tract of rolling Virginia countryside, 18 miles from downtown Washington. Mr. Simon bought the land for \$12.8 million in March, 1961, and engaged a firm of architects and city planners, Whittlesey & Conklin. Planning started that fall, followed by negotiations with county officials for a required zoning change.

Developers' frequent failure to formulate clear-goals results in barren, monotonous projects, says Mr. Simon. "Regardless of whether the developer is a private individual or a government agency, his function is to set the project's goals. The land planner's function is to translate these goals into a physical plan. If the developer shirks this responsibility, the planner steps into a vacuum. Without definite goals, he may create some abstract architectural utopia at the expense of the people who must live with the reality." He calls the master plan, "magnificent."



PLANNER William J. Conklin

As a partner in Whittlesey & Conklin, architects and city planners, of New York City, William J. Conklin is directing the master planning of Reston. In addition to coordinating the work of other architects, Mr. Conklin designed the lakeside center of Reston's first village and is presently designing attached houses and apartments that will surround a golf course in this village. Mr. Conklin is also a member of Reston's architectural review board, which must approve the designs of all detached single-family houses built in Reston.

The other members of this board are Chloethiel Woodward Smith and Charles M. Goodman, two Washington architects, who have designed attached-house clusters, and Geddes, Brecher, Qualls, & Cunningham, Philadelphia architects.

A scholarly, intense Harvard graduate, Mr. Conklin likes to philosophize about his work: "If architecture is the stage set, then planning is the script for shaping environment to enhance community life." He sees new towns as a means of improving the quality of American life by relieving pressure after the daily grind, and, increasing recreational and cultural opportunities, and he disparages the economic arguments based on tax savings. "New towns and clustering, normally promoted for their economies, must ultimately be judged by their pleasure and security they offer their inhabitants."

Law Enforcers Confused?

NEW YORK STATE'S most recent antimonopoly suit against contractors and their organizations (see p. 153) suggests that the attorney general's office is on some kind of a campaign to harass contractors. Earlier this month Attorney General Louis J. Lefkowitz filed three separate antimonopoly actions against subcontractors, claiming they had boycotted work offered under the single contract system they have been fighting (ENR Jan. 14, p. 69). Now Mr. Lefkowitz makes a charge against general contractors that seems to lack basis in logic or law.

The latest suit charges that general contractors violated antimonopoly statutes by refusing, in concert, to bid on public jobs that required contractors directly to take on the responsibility for any possible errors in architectural or engineering design.

The law enforcers appear to ignore the fact that in demanding that contractors assume responsibility for errors of design they in effect order violation of another law: that architecture and engineering be practiced by only licensed professionals. Mr. Lefkowitz also demands that contractors buy insurance that in fact cannot be obtained.

It's hard to imagine how the state's legal experts could be so confused as to the relative responsibilities of contractors and architects or engineers. It now remains with the courts to expose and correct any misconceptions.

Still the Weakest Link

THE INSPECTOR, labeled here long ago the weakest link in construction's owner-architect-engineer-contractor chain, is scrutinized in this issue (p. 58). The unavoidable judgment is that he is still the weakest link in public construction, although there are encouraging signs of effective efforts to strengthen him. These efforts are far too scattered to have made a radical improvement in the general situation. But they are noteworthy.

As stated here in the past (ENR Nov. 30, 1961, p. 92), the inspector of public works projects needs to be better educated, better paid, better trained and instructed, better supervised and recognized for advancement. And unfortunately, it does not go without saying that he should be incorruptible.

It took the sordid findings of corrupt and sloppy inspection in Interstate highway work by the Blatnik committee to move some state agencies to strengthen their inspection forces. It should take no such shock treatment to bring all state and local construction agencies to follow suit.

The ways of strengthening the inspector, as reported in this issue, are many and varied. There is no one best way to recruit, train, and hold onto the inspector; there are many good ways. There is no one best type of in-

spector; there is much to be said for the subprofessional, for the young professional, or for the professional at or beyond retirement age. Whatever his age, experience or education, the inspector needs responsible professional supervision; he needs clear and definite instructions as to the limits of his authority; he needs continual training and the best available manuals or other guides to work by.

If constructed facilities are to be created as conceived, the inspector must do his job well—better than it has been done in the past, better than it is being done in too many places right now. And for this improvement, we need improved inspectors.

A Beacon of Planning

RESTON, VA., THE NEW TOWN rising in the outer fringes of metropolitan Washington, D.C., deserves high praise for two reasons. It is one of the first U.S. examples of a new town—planned to achieve by private enterprise what government is achieving in Britain. Even more important, it is the first satellite city on a radial-corridor system proposed in the national capital's Year 2000 Plan, the nation's only regional master plan for controlling metropolitan growth (see p. 53).

The Year 2000 Plan was made by the National Capital Planning Commission and the National Capital Regional Planning Council, federal agencies created by Congress in 1952 "to secure comprehensive planning for the physical development of the national capital and its environs." To accommodate an additional 3 million residents expected by the year 2000, the plan proposes 20 satellite cities built on transportation corridors radiating from downtown Washington. Rapid rail transit tracks, some occupying the center strips of freeways, are a part of the plan, to stimulate concentrated development corridors. Equally essential to the plan is a disciplined policy of governmental controls restricting development in the "green" wedges between the radial corridors.

The late President Kennedy endorsed the Year 2000 Plan and directed all federal agencies to support it. The National Capital Planning Commission, which must approve expansion plans of all federal agencies, favors location of outlying agencies in satellite cities. Since the federal government is the key employer in this region, it can exert considerable power in directing regional development.

One threat to the Year 2000 Plan is the failure of Congress to enact legislation for what could be the nucleus of a regional rail transit system. Another is politically inspired rezoning practices that threaten to extend urban sprawl all over neighboring Montgomery County, Md. If these failures are not corrected, the nation will lose a great opportunity for its capital region and an inspiring example for other exploding metropolises.