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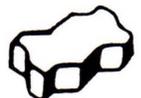
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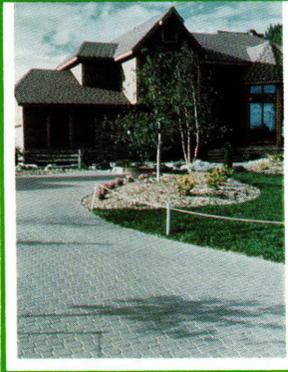


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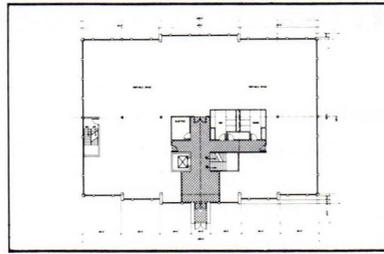
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Vol. 22 No. 2

New Jersey

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Architecture New Jersey (USPS 305-670) is the official publication of New Jersey Society of Architects, a Region of The American Institute of Architects, and is the only professional publication in the state. The purpose of the quarterly publication is to advance an increased public awareness of our visual environment. It carries news, articles and representations of buildings of current interest.

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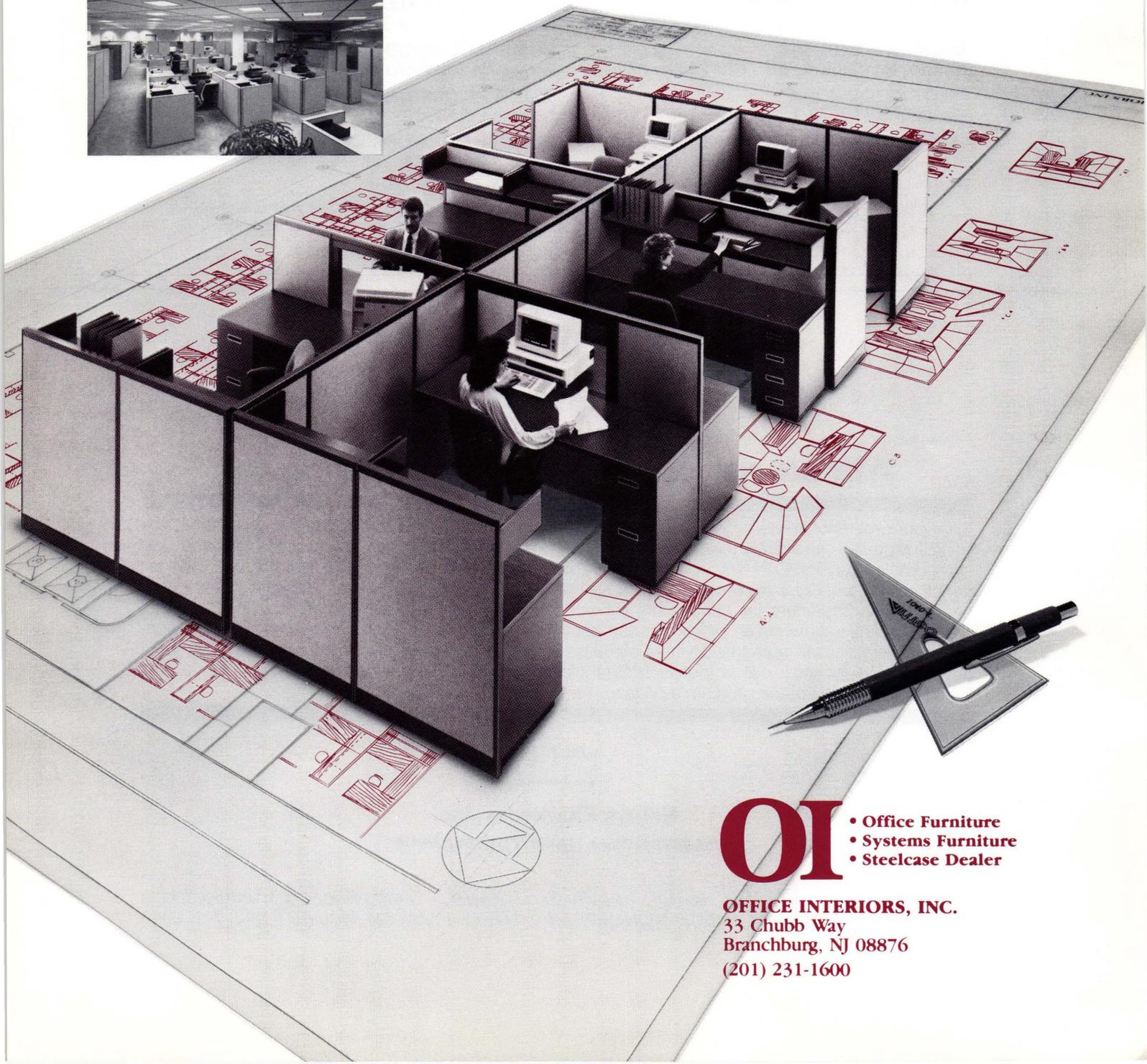
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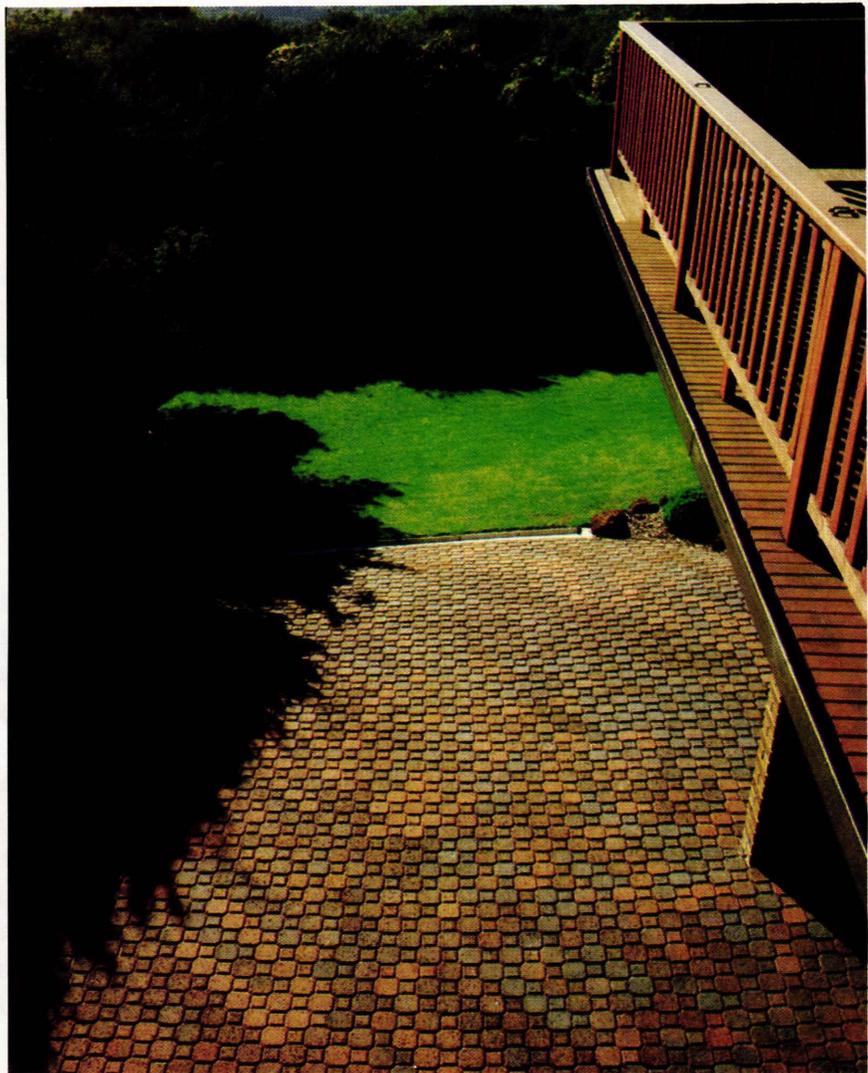
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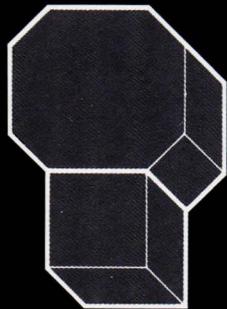
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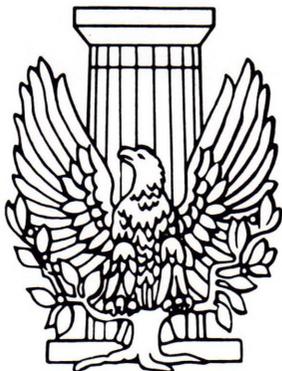
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Suburban Office Buildings

There exists for architects in today's reality, an often perplexing condition brought about by contradictory values within the profession. We are being asked by our clients to design more and more suburban office space in a world already brimming with unleased buildings. In an attempt to draw would-be tenants, emphasis is given to buildings with distinct characteristics and an ability to catch the eye. Deep inside we know, however, that we are contributing to the overcrowding of growth corridors such as those in Princeton and along Interstate 78 and that some plan of coordinated efforts must be made so as not to destroy the very features of these regions that draw clients to them. These are not easy issues to deal with. Hopefully, the following articles and approaches will help us in the process.



The New Economic Geometry: The Suburban Growth Corridor

by George Sternlieb and James W. Hughes

Introduction

The enormous U.S. commercial construction boom/bust of the 1980s has been a staple of the mass media. Tales of real estate fortunes giving way to record vacancy levels in the mineral and natural resource capitals of Houston or Denver are commonplace. At the other end of the spectrum has been a shift in attention from New York's demise to the phenomena of Madison Avenue store rents of \$300 per square foot and White Plains traffic gridlock. And it is the latter which has elicited the new media fascination: the suburban growth corridor. A Princeton corridor in New Jersey, with more than 100 million square feet of office space — little of it more than a few years old — has many counterparts throughout the country.

What has not been appreciated, however, is that the sheer scale of this

construction binge has defined the pattern of suburban/exurban development for the next decade. Aided and abetted by generous — perhaps over-generous — tax depreciation allowances, the future skeleton of the American economy is being set in concrete. While many suburban growth zones may be currently overbuilt, the very scale of development which has been taking place within them serves to limit the potential of alternative future loci — both center city and exurban.

It took the development community nearly a generation to fully awaken to the possibilities of the new one-hundred percent locations — the metropolitan circumferential highways and their radial corridor outgrowths. It has taken only a half-dozen years to build well past the market saturation level. The "bargain" rents spawned by the current

speculative boom, however, will slow future growth. The going joke in the Houston market is five years' free rent for a three-year lease! As this scenario multiplies, the ramifications will be substantial, but a suburbanized economy will have come of age and with it new public policy implications.

Decade of Development? Or Debacle?

The very name "suburb" still conjures up visions of an earlier era — of quaint bedroom hamlets populated by downtown commuters. But today, large-scale, post-industrial corporate settlements, and their service retinues, define the development action. A new shape and logic prevail. The basic numbers on office construction and its location tell the tale.

The arithmetic of the sizzling 1980s' office market, and the dilemma of



Franklin Business Center
Franklin Township, New Jersey

Rothe Johnson Associates
Edison

Franklin Business Center is a 52,000 S.F., one-story office/research facility designed to meet the flexible needs and image of a potential high-tech user.

A central circulation axis is the basis of organization for the scheme. The two major building blocks are shifted along this axis to create an entrance plaza and to break the street facade into two planes defining covered colonnades which lead the visitor to the central circulation axis. They overlap at the entry point forming a series of entry portals and thereby creating a formal entry sequence of movement. A third portal within the building announces passage into the lobby core. A secondary employee entrance, defined by the fourth and final portal, is located at the rear of the facility, terminating the axis.

The building is sheathed in the three colors of ceramic tile in a stack bond pattern to accentuate the composition. Continuous butt-glazed windows strengthen the desired high-tech image. Clear ceiling heights of fifteen feet provide the internal planning flexibility needed to accommodate the functional requirements of high-tech usage.



Photos: O. Baitz

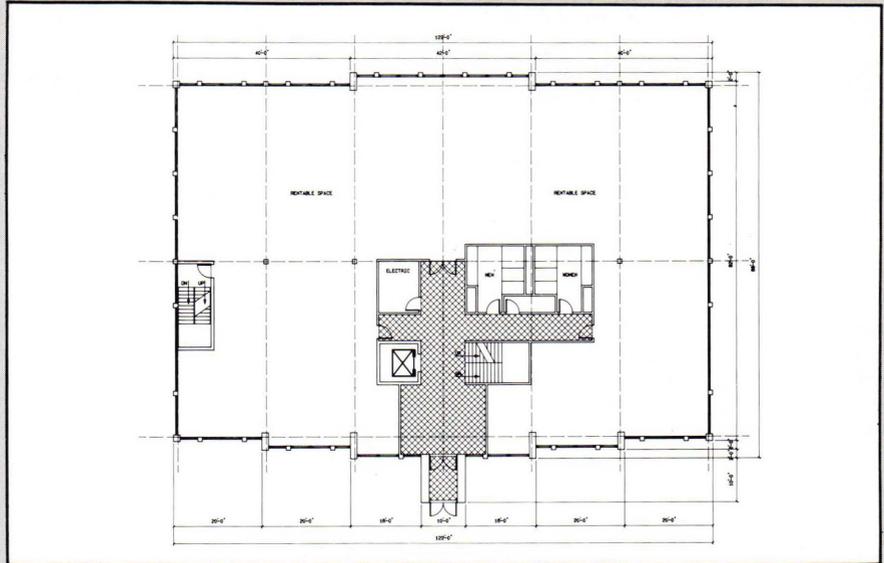
**Hillside Square
Parsippany, New Jersey**

*Barrett Allen Ginsberg, AIA, PA
Bedminster*

Located eastbound on Route 10 in Parsippany, this 7.63 acre site slopes steeply toward Route 10. The property is bisected by a driveway which leads to an expansive apartment community further uphill.

The client seeks to build multiple small-scale office buildings in order to phase their construction and to reduce the amount of grading and retaining walls that a single building would require.

The design solution is to provide a series of five buildings, four of 20,000 square feet, and one of 10,000 square feet. The two story buildings will be built of masonry and will be capped by a standing seam metal roof. The roof acts as a mechanical equipment screen and enhances the view of the buildings from the apartments on the slope above. The symmetrical facade compositions, a two-story entry hall, an emphasized base, arched windows, and paired chimneys suggest a baronial atmosphere that is strong, readily identifiable, and favorably evocative, creating a distinct character for this project.



overexpansion, are relatively straightforward. As detailed in the 1986 *Dodge/Sweet's Construction Outlook*, from 1981 through 1985, the U.S. economy was able to digest about a quarter of a billion (250 million) square feet of new office construction per year. But during this five-year period, annual additions to the office inventory averaged 300 million square feet. As residential construction faltered from the record years of the 1970s, the nation's builders went on an office construction binge. Over 1.5 billion square feet of office space were constructed between 1981 and 1985, a quantity sufficient to shelter the entire service-producing sector of the West German economy.

But the gap between space availability and the consumption requirements of the U.S. economy is growing, suggesting that substantial cutbacks are going to be required in the level of new construction to absorb the present and pending overhang. The future is clear and is based on the following rationale.

Office space allocated per office worker has expanded enormously over time. Planners were using a parameter of approximately 150 square feet per worker as late as the mid-1960s; the present standard is slightly in excess of 200 square feet. The reasons for this growth vary, from the necessity of housing more

equipment per worker associated with office automation to the tendency for firms to rent not the space that they currently need — but the square footage that they envision growing into. Taking into account current space requirements in conjunction with employment projections (in excess of 1 million office jobs per year) and estimates of obsolete building replacement, *Dodge/Sweet's Construction Outlook* projects a sustainable future demand of 250 million square feet for the balance of this decade. This is consistent with the actual experience of the first half of the 1980s.

With between 200 and 250 million square feet of excess vacant space already available to meet this demand, only 200 million square feet of new construction per year can be justified for the next five years. This is fully one-third less than the preceding five years (1981-1985), but it still may represent an optimistic expectation.

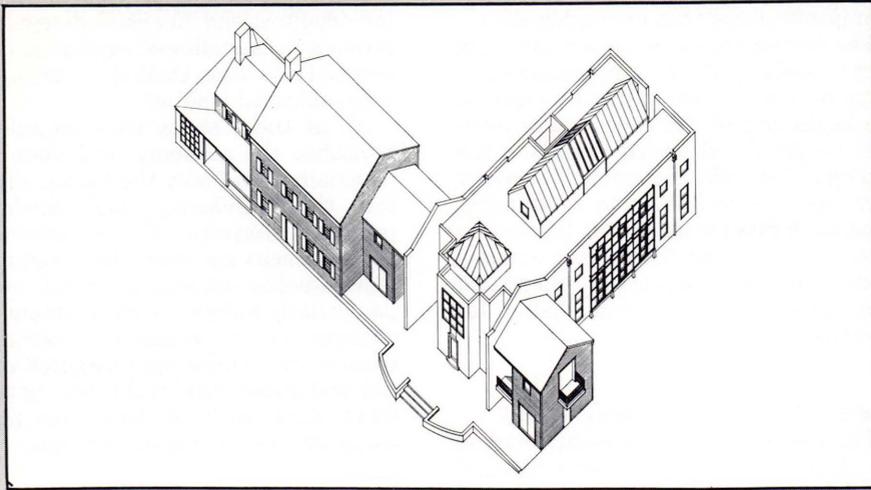
While there has been much discussion of wholesale obsolescence of older office facilities as "smart" structures are required to house modern electronic equipment, this rationale has not yet provided sufficient justification for increased utilization of newer buildings at the cost of the old. Indeed an argument can be made that 1980s' electronics require less in the way of building retrofitting,

heavy-duty air-conditioning, etc., than did the predecessor technologies of a decade ago. And as paper storage of records gives way to enormously capacious electronic memories, the potential of physical shrinkage is made even more evident.

There are striking flywheels of custom that inhibit change, as witness the law firm library continuing to occupy expensive space while the researchers use LEXIS. But even this finally is made mutable by time, thus potentially reducing ultimate space requirements.

Increasing Suburban Dominance

Somewhere in the mid 1970s, for the first time in history, more office space was projected for suburbia than for the classic central business district (CBD). While this was not achieved until after the decade ended, the scale of suburban dominance of this traditional central city downtown function is remarkable. By 1985, two out of every three square feet of new office construction was begun in suburbia. There was a total of 1.3 billion square feet of existing office space. Only 43.5 percent of it, however, was in the CBD — the balance, 56.5 percent, in suburbia. (The latter compares to only 48.6 percent in 1981.) The disproportion is even made more evident when the total space under construction is



American List Counsel, Inc.
Montgomery Township, New Jersey

Short and Ford
Princeton

The scheme is created by the juxtaposition of the garden to the south, the new office wing to the north, and the existing house to the west. The composition is interlocked by the replication of a piece of the old building on the east which houses the employee lounge and one of the director's offices. By means of the parapet walls, the old and new are simultaneously connected and separated, visually held in place by the two-level conference center. Its central location connects farmhouse, garden, and office building and thematically relates the co-existing images of simple rural life and a high-speed information-oriented workplace.

The main office wing is designed as a building within a building. The center gabled portion houses a core for vertical circulation and a central communications "gazebo" at each level; its cross-axis, which relates to the entry court, is marked by a skylight at the top of the stair. This core is surrounded by circulation corridors which are in turn wrapped by the flat-roofed "modern" office building containing individual work stations and offices.



Photo: O. Baitz

isolated: 63.5 percent is suburban.

And the sheer vigor of suburbanization has yielded even greater shares of the space available (vacancies), as contrasted with the central business district. The very fact that funding can be secured — and buildings generated — in the face of such vacancy concentrations indicates not only the problems of a long pipeline (buildings started in times of severe shortages often come on-stream when there is an excess of space) but also the vitality and future expectations of the market. Suburban vacancies approach nearly 20 percent, the CBD equivalent barely 13 percent; yet the thrust of new construction is still suburban, mainly in development corridors.

The Rationale

The rise to prominence of the suburban growth corridor is the result of many factors. Three initiating factors are important: the evolution of the American economy to the point where the service sector is the overwhelmingly dominant growth element; federal financial deregulatory actions and tax legislation, which provided enormous incentives for real estate investment; and the third generation impact of the nation's Interstate Highway System. These developments have tended to foster, respectively, intensive metropolitan ser-

vice growth, massive office construction and overbuilt markets, and suburban growth corridors marked by concentrated office development along metropolitan ring highways.

The scale of overbuilding and the development overhang which has resulted are unprecedented in post-World War II annals. In essence, it represents the setting in place of the future infrastructure of the American economy. So substantial is the phenomenon that it ensures slower future development growth and the preemption of alternative spatial development competition. The future will be defined by a maturing suburbanized economy with national growth increments increasingly attached to the emerging concentrations.

The New Economy: Technological Evolution

It is now a platitude to describe America's economy as service dominated. The sheer level of change, however, is worth reviewing. It took 300 years of agriculture to give way in total employment to manufacturing — a passing of the banner that did not occur until World War I. Manufacturing's hegemony, in terms of its proportion of non-agricultural jobs, survived only through World War II. By 1980 more

Americans were engaged in trading goods than in manufacturing them. And the shifts within the last decade have been even more monumental, with marketers of real estate — and related services as well — limping after the reality.

The rapidity of change is indicated by examination of U.S. employment growth by sector for 1976 to 1981 and from 1981 through 1985. The employment categories are proximately based on the *Business Week* (June 1, 1981) segments designed to conceptualize the American economy as five distinct sectors. We have added trade and distribution (basically wholesale and retail trade) as a sixth component.

The 1976 to 1981 tabulations seemed to point the way to the future. The era shaped by the oil crises spawned a 43 percent increase in energy jobs and a 33 percent gain in high technology. Both of these sectors expanded at greater rates than did services or trade/distribution. Old-line industry had yet to feel the real pinch of the import surge of the 1980s and by 1981 had added more than 1.7 million jobs from the level imposed by the mid-decade recession.

While services and trade dominated the absolute growth increments, all sectors showed fairly robust gains. But the priority targets, based on rapidity of growth, were evident. High technology

was the future, energy growth was limited only by natural sites, and funding for synthetic resources clearly was of the highest priority. These would help fuel the locomotive pulling the more modest-paced train of services and trade/distribution activities.

When we turn to the 1981 to 1985 period, however, the future was markedly different. The services and trade sectors accounted for practically all the employment increase. Old-line industry had shrunk by more than one million jobs while their expected offset, high technology, expanded by only 200,000. The energy sector, much to the dismay of Texas and the Rocky Mountain states, lost nearly 100,000 jobs. Even government, long viewed as a stable growth sector, barely registered a minimal gain (as the comparatively stagnant Washington residential realty market will attest).

Thus the growth bases of the late 1970s proved to be highly deceptive as we moved into the middle 1980s. International manufacturing competition — both in old-line industries and high technology — agricultural stagnation, and the energy glut has served to narrow the nation's economic growth sectors, and their geographic patterning as well. But real estate development has a long gestation period, often reflecting the past rather than the future. This is

mirrored in both the location and types of improvements that are undertaken.

The movement to house services — in part by default of other opportunities — came on scene with enormous vigor at the beginning of the decade, and over-shot by far the absorptive needs of the market. The 1981 Economic Recovery Tax Act was dedicated to revitalizing America's overall industrial infrastructure. In the face of the shift in employment growth, however, it succeeded very largely in generating shelter for clericals.

Federal Tax and Regulatory Policy

The 1980s have been indelibly marked by changes in various federal tax and regulatory provisions that have served to redirect capital flows to commercial real estate development, particularly the office sector. This is enhanced by the accessing of a whole host of new financial sources — pension funds and corporate treasuries alike, both domestic and overseas. Among the more prominent changes that have channeled massive amounts of investment — and speculative — resources into such ventures are: the tax write-off provided by 18-year depreciation; the special tax provisions for syndicates and limited real estate partnerships; regulatory changes that removed interest rate ceilings from

lending institutions in order to compete for deposits; and financial deregulation provisions that allowed savings and loan associations (the thrifts) to engage in nonresidential lending.

All of these shifts were intended to revitalize the economy, stimulate reindustrialization, save the financially ailing thrift industry and unshackle private enterprise. While unintended consequences are often characteristic of federal policy actions, the result here is particularly unique. In conjunction with changes in the economy, investment became overwhelmingly targeted on office and commercial real estate development. And the latter have been placed along our major freeway arteries.

Third Generation Highway Impacts

The skeletal framework of economic suburbia was unwittingly initiated more than a quarter of a century ago. In the middle 1950s, bulldozers first began what was then probably the largest public works project in history — the 41,000 mile Interstate Highway System. Originally justified via national defense requirements, it has since served to spatially restructure the American economy.

This reshaping has had three major dimensions which became apparent during successive decades. The first genera-

United Jersey Banks Corporate Headquarters Princeton, New Jersey

*The Hillier Group
Princeton*

The United Jersey Banks headquarters is located on an 11.9 acre site in Princeton's Carnegie Center. The building is three stories high, totalling 133,600 gross square feet.

The building has been designed to establish a strong and visible identity for United Jersey Banks as an institution. An atrium within, and extensive landscaping without serve to create a welcoming impression, drawing visitors into the structure, and giving employees a feeling of communication with the outside.

The lobby level includes a branch of United Jersey Banks, N.A., an automated teller machine, a two-story atrium reception area, and both dining and exercise facilities for employees. The first floor houses staff support for branch banks in the Princeton area. The second floor houses United Jersey's corporate employees.

The exterior is of polished granite and structurally glazed with reflecting glass. Landscaping is used to screen parking areas, and earth berms create a central visual focus on the entryway.



Chesterwoods Office Condominiums
Chester, New Jersey

Nadaskay Kopelson Architects
Morristown

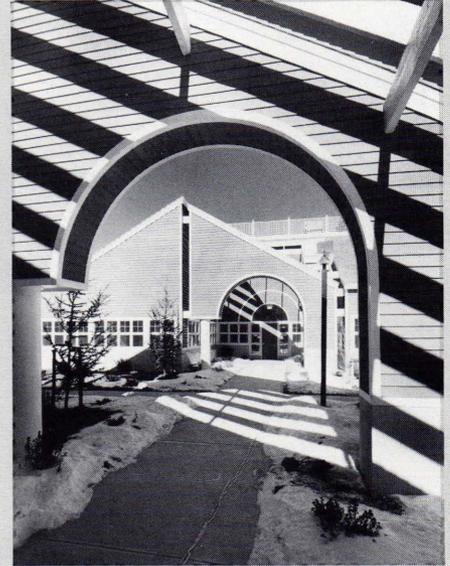
The developer, Paul Chodniewicz, and the Architect researched the growth needs of target buyers (medical group practices) with a local marketing

report to determine the scale and phasing of the project.

They found that medical group practices in the suburban environment vary in their space needs from 500 to 2500 sq. ft. A 500 sq. ft. module was chosen to allow the growth of individual practices.

The scale of Chesterwoods Office Condominiums does not overwhelm the casual viewer or the potential

buyer and invites comparison with the neighboring farmland vernacular. The staggered arrangement of the modules breaks down the massing with exterior trellised lobbies which eliminate the need for costly interior common space. The barn shapes and farmhouse window proportions of the office buildings are placed next to these open trellis areas which recall barn structures without siding.



Park Plaza
Montclair, New Jersey

Mylan Architectural Group
Montclair

This building will house the New Jersey offices of the Garippa and Trevenen, a law firm. The remainder of the building will be leased to other professionals.

The building will greatly enhance the Montclair downtown area as the first major new office space in this part of town in years. The site is just north of the intersection of Park Street and Claremont Avenue.

The building was designed to minimize the impact upon the neighborhood. A large copper beech tree at the front of the site will be preserved, and all parking will be plac-

ed a half level below the surrounding grade. The brick veneer exterior and high sloping metal roofs will reflect the architectural character of the neighborhood. The clients wanted their building to have lasting character and did not want to build a typical 'spec' office building. What finally developed on the drawing board was a modern building with soft expressions of classical elements.





Baker Industries
Parsippany, New Jersey

The Grad Partnership
Newark

Baker Industries' recently completed corporate office building is a 120,000 sq. ft., 3 story facility faced with precast and metal panels. The design of the building reflects the nature of Baker Industries' business; security and guard services. The overhang on the curved facade provides a covered gallery leading to the staff entrance.



Greenbrook Corporate Center
Fairfield, New Jersey

Rotwein & Blake, Architects
Union

The three-story, 199,600 square foot unit, designed for general corporate use will be made of off-white precast concrete with tinted, blue-green reflective windows. It will feature a three-story, natural wood and marble central atrium with a skylight. Between the two buildings at Greenbrook Corporate Center will be 10 acres of open space with Green Brook running through it

to create a natural, park-like setting. "Along with its modern facilities and natural setting," says Joseph R. Romano, executive vice president of The Seltzer Organization, "Greenbrook Corporate Center will offer an excellent location, just a mile from Route 46 and Route 80 and close to the residential communities of North Caldwell, West Caldwell, Roseland and Essex Fells. The Seltzer Organization expects the first building at Greenbrook Corporate Center to be ready for occupancy by early Summer of 1987. Construction plans for the second building — 3 stories, 80,000 square feet — will be announced at a later date.

tion effect was the residential suburbanization that dominated our metropolitan areas in the 1950s and 1960s. The first stages of Interstate construction served to facilitate the basic processes at work — the dispersion and decentralization of population and population-serving activities.

As the system drove toward completion it has served to alter patterns of regional connectivity, the second major impact. Many parts of the South secured enhanced accessibility to the broader U.S. economy, providing a major stimulus for the shifting regional fortunes of the 1970s.

The third generation impact prevailed in the 1980s. The Interstates — and equivalent-scale roadways — became the lifelines of the new suburban growth corridors. In part, this represents the rise to full influence of the circumferential components of the system — the ring freeways surrounding virtually every metropolitan area. The earlier impacts were predicated on metropolitan radials (residential suburbanization) and on the long distance intermetropolitan/interstate components (regional development and integration). But now it is the arteries originally designed to bypass metropolitan centers that have themselves become anchors of intensive development.

The suburban growth zones are certainly not restricted, however, to metropolitan beltways. Radial outgrowth corridors have often emerged, proceeding from the circumferential to an outlying node. And zones have emerged inside of the ring roads, usually tied in to specialized loci. But it has been the full maturation of the Interstate System that has transformed America's economic geography.

The Development Game

Within this context, it is the development industry which actually shapes the built landscape. One cannot fully comprehend the coming into being of the suburban growth corridor, or the actual locales of its emergence, without understanding developer behavior. Key to the process are the concepts of legitimacy and the market snake dance.

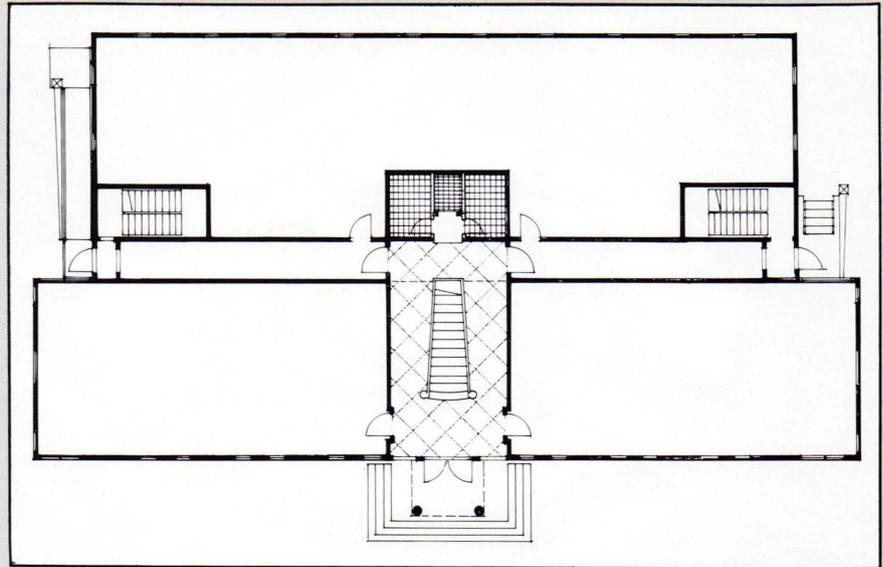
Tax parameters have virtually ensured a large volume of office building construction. Economic changes have reduced alternative opportunities, leaving the national service industries as the remaining target. As George A. Christie of McGraw-Hill has pointed out, developers have shifted from Southwest to Northeast, from downtown to suburbia and from high-rise to low-rise. And they often move in seeming lockstep from overbuilt areas to underbuilt ones, only to saturate the market, in turn instigating the search for new ones.

A starting point of the process is the legitimizing of location. Once a major

**New Office Building
Princeton, New Jersey**

*Michael Burns, AIA
Rocky Hill*

The requirements for this structure include new offices for Rawson Development, an attorney's office, offices for the architect and an area for speculative tenants. The building is arranged on two floors — linked by a two-story lobby with a "grand" stair. At the top is a large conference room to be shared by the three primary tenants. The structure presents a more elaborate facade to Route 206 and the entry and allows for some scenic views of Princeton Airport, while the sides and rear are more economical in their treatment. The building is based on fairly simple traditional forms and is constructed of wood frame with clapboard siding. The lobby interior will have a tiled floor, skylights, wood stair and some elaborate trim detailing. The two primary offices on the second floor will have exterior terraces for informal meetings/lunch, etc., in the form of "wings" to either side of the facade.



player makes a commitment to a market, the location secures certification — it becomes a legitimate target for the national development community. At the extreme, a market snake dance ensues, with trailing players, desperate to achieve market presence, chasing after the initiators.

The exact triggering mechanism, however, remains difficult to specify. In the Princeton corridor, for example, it was the university's direct real estate development activity — Forrestal Center — which provided the baseline for the 1980s' explosion. Other growth zones have been predicated on functional activities. The Washington area's Dulles Access Corridor built up momentum on the basis of federally supported high-tech operations, particularly in defense communications. In contrast, the Fairfield County, Connecticut and Westchester County, New York corridors represent mature/diversified markets, initially based on corporate headquarters relocations of the past decade, now fortified by branch office and service entourages. These are just a few of the set of diversified bases from which the growth corridors emerged. But beyond gestation they have tended to achieve common form as they become immersed in the national development matrix.

Demographic Critical Mass

Public attention frequently is directed towards unique occurrences at the expense of the modular event. An interstate relocation of credit card services by a Citicorp from New York to South Dakota generates a sea of speculation of the new homogenization of space and time resulting from; maturing communications technologies. We would suggest, however, that while there may be a few emulators of this type of locational behavior, at least in the near-term future, this will *not* be a key dimension of America's economic ecology.

The movement of office facilities and high-tech research and development accommodations to suburbia is not only the natural product of transportation evolution, but even more so of the shift of the critical mass of population, both in number and perhaps even more strikingly in socioeconomic characteristic. The labor-intensive character of the American service economy cannot be overlooked in this context.

America's post-World War II residential suburbanization was powerfully fostered by federal policy focussed on housing-enabling mechanisms. The pattern of commuting for work purposes to the central city now involves a decreasing minority of suburbanites. Instead, as suburbia has come of age, there has

been an enormous burgeoning of its labor force potential, but it is linked to jobs reasonably proximate to home location. The two-income household is the rule, not the exception. This requires residential centrality and job choice. Both of these are now available in the suburban growth corridor. The central city's role has been upstaged. One of the key appeals of suburban/metropolitan fringe location versus either central city on the one hand or isolated rural exurbia on the other is the sheer scale and quality of the labor force which can be assembled — and indeed, if necessary, disassembled — without much in the way of turbulence to the local economy.

These are factors which were solidifying in the 1970s, courtesy of the third generation impact of the highway program. When joined in the 1980s by metropolitan service growth and new federal tax legislation, a tendency was transformed into terrifying momentum.

And as has been the case so often in modern-day America, the role of the baby boom cannot be discounted. The baby boom was born in suburbia, raised in suburbia, settled in suburbia and now works in suburbia, tales of gentrification and yuppies notwithstanding. Given the dominance of this suburban generation, it is not surprising that its employers would locate accordingly. The suburban growth corridor is intimately

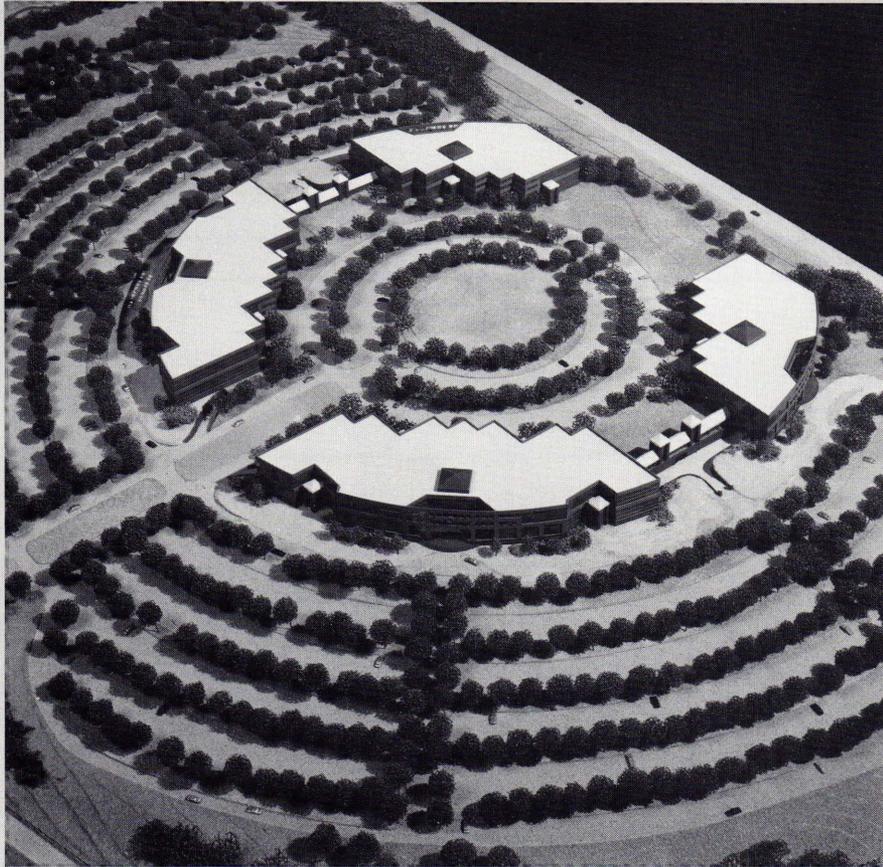


Photo: Leigh Photographic Group

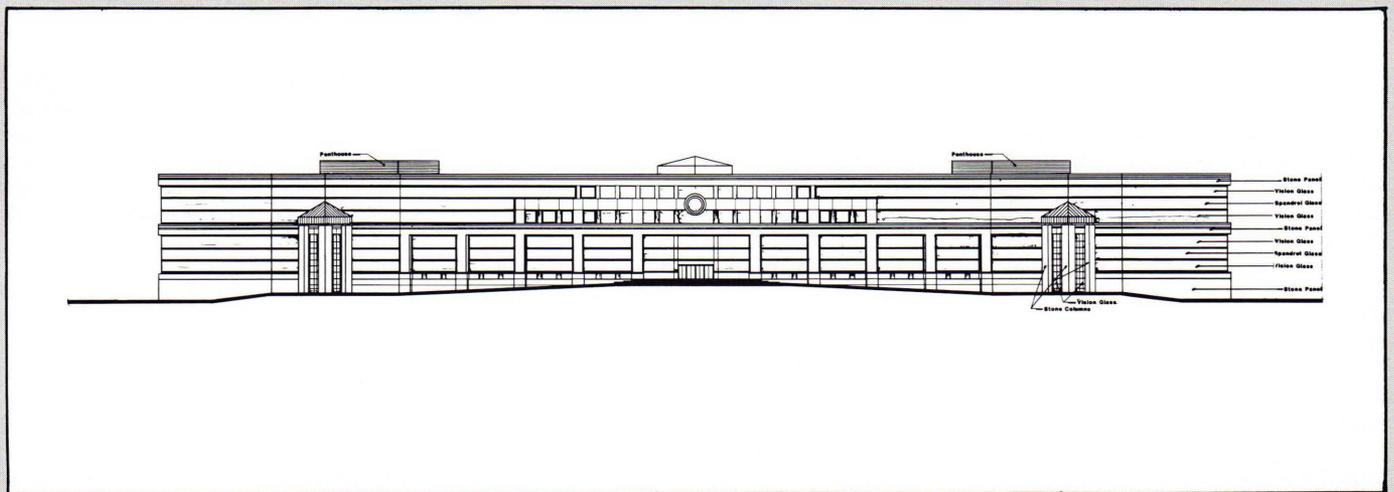
Hall's Mill Farm
Readington Township, New Jersey

Barrett Allen Ginsberg, AIA, PA
Bedminster

This 105 acre site of former farmland is bounded by Interstate Highway 78 to the north and is dominated by a centrally located hilltop. At its western edge a stream crosses the property, and to the south lies a designated wetland area.

The client desired to create an office campus suitable for a corporate headquarters. The need to phase construction was important, as was the creation of a distinctive identity.

The design solution is to create a ring of four buildings comprising 880,000 square feet just below the crest of the hill. Parking for one thousand cars is provided in a below grade garage. A formal boulevard serves as the main entrance to the site, leading to the central courtyard where visitors parking is located. The buildings are clad in green glass and pink granite, and sit on a green granite base. Enclosed connections are provided between building pairs. On the interior, four story atria are capped by skylights.



linked to the maturation of the baby boom.

Implications

What is the import of this development? It in no way indicates that central city America is going out of business. One only has to look at the new vigor of downtown Baltimore or Philadelphia, to say nothing of New York or Boston, to appreciate this. We would suggest, however, that the sheer scale of suburban office construction is the equivalent of a preemptive strike, limiting the scale of future development. In and of itself, it is sufficient to absorb the office labor

force growth predicted for the balance of the decade. In its unrented condition it stands as hardy competition to any additional new construction. Distressed properties provide bargain rents and the latter are sufficient to dissuade even the most optimistic of risk takers. The physical matrix of the economy of the next decade, therefore, is largely set. This will be particularly the case in the light of potential tax reform which, at the very least, may include significantly less generous treatment of new office construction.

But the residential sector will exhibit several tendencies. Within the corridors,

high density residential clusters will emerge, while at the same time the outer metropolitan fringe will be transformed into suburbia — a hybrid form of rural, exurban and suburban development formats. Overall, the conjunction of dispersion and increasing corridor density will raise new challenges to both transportation and infrastructure development.

One of the classic theses of central city advocates has suggested that the increasing density of suburbia ultimately must force an equivalent infrastructure response. This, in turn, will tend to raise local operating and capital costs, thus

265 Davidson Avenue
Franklin Township, New Jersey

*Rothe Johnson Associates
Edison*

This 78,000 square foot, 4-story, corporate office facility is located in Franklin Township in a prime location near Interstate Route 287.

The facility is composed of two rectangular office wings which are shifted along a main axis; the organizing element of the project. This helps to break down the scale of the large structure. The axis created is comprised of a varied sequence of space and light which leads the visitor from the entry courtyards, along a colonnade, through the entry vestibule and into the four-story atrium at the heart of the project. The skylit atrium which connects the rectangular office wings welcomes the visitor and acts as an extension of the entry courtyards at each end of the facility.

Utilization of two major building materials helps to further break down the scale of the building and strengthen the concept. A medium grey precast concrete panel resembling granite is used to sheath the two office wings. As this precast "wrapper" approaches the entry areas it reduces to a series of light framed openings; a screenwall through which the off-white metal panel skin, the other major material, is visible. The metal skin emerges and threads through the atrium, connecting the entry courtyards at either end of the organizing axis. To increase the feeling of openness and light, more glass is utilized in the metal panel areas.

Core support areas are located in each wing off the common atrium space for easy access by tenants. A full service loading area is connected to the freight elevator located near the lobby at the

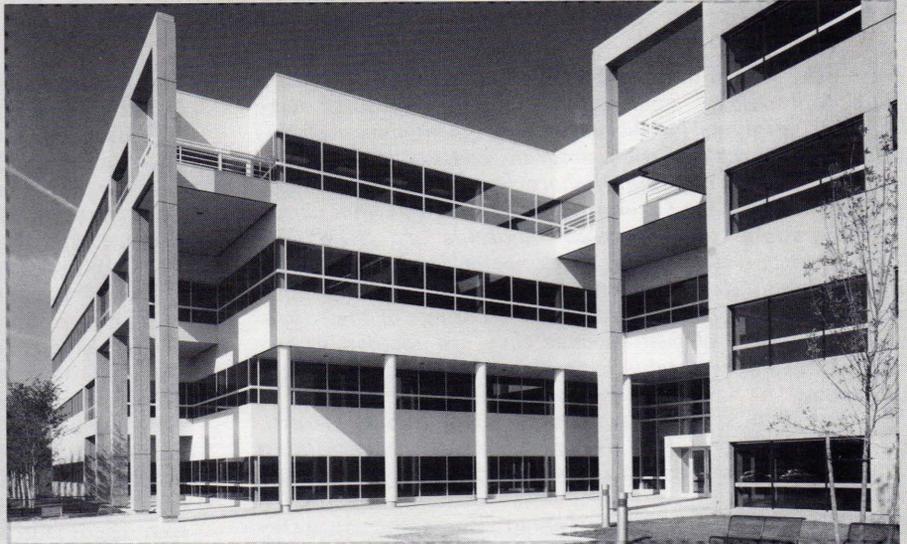
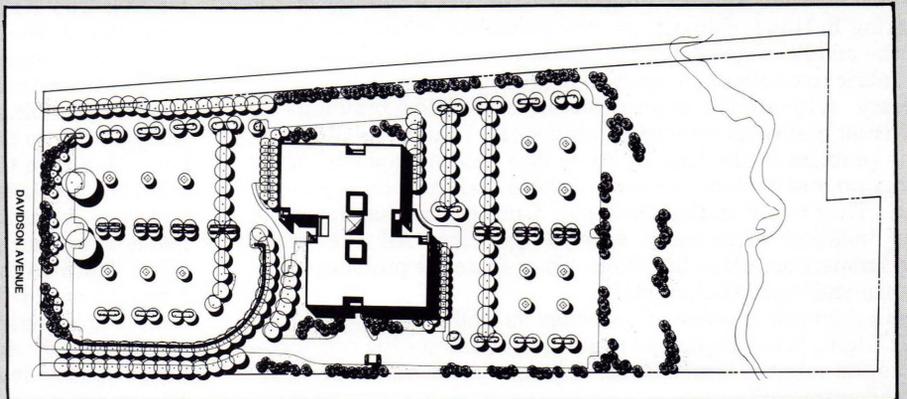
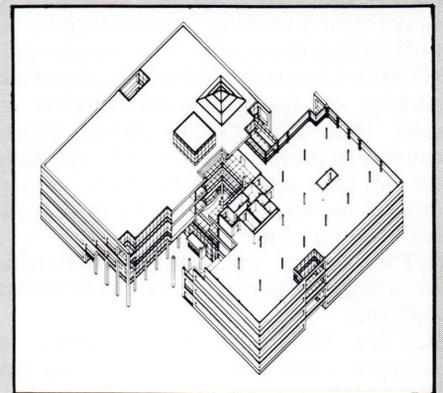


Photo: O. Baitz



center of the building. Parking for 700 cars is split almost equally at either side of the facility to minimize excessive walking distances.

The mechanical system is a closed-loop heat pump application with state of the art controls, ensuring an energy efficient operation. The floor plan configurations allow for numerous potential perimeter and corner offices. The building was completed in June 1985.



reducing one of the competitive disadvantages of core areas. This is a process which is presently underway. The principal infrastructure targets of the next decade will be much more concentrated in the new growth zones than in any other areal nexus. The age of the septic tank is giving way to sophisticated waste treatment facilities, while the growing potency of suburban gridlock will require massive expenditures as well — and this at a time when federal funding in many sectors is rapidly departing the scene.

Complicating forecasts of future growth is a new calculus of developmen-

tal politics. There are clear signs of increasing resistance to development, particularly in the most desirable of suburbs. The decade-ago objection of suburban/exurban Greenwich, Conn. to commercial proliferation was unique. At the time, it fostered a spillover to Stamford, but now the no-growth response is rapidly becoming much more universal. The recession-born insecurity which spawned aggressive pro-growth strategies is yielding to complacency — and indeed a fear of urbanization.

But these latter elements are far from the exclusive purview of suburbia — they are joined in by central cities as

well. The last mayoralty contest in Boston — with both major candidates running against an over-commitment to downtown development — is a case in point. Even Houston and Dallas, long the capitals of unquestioned enterprise, are beginning to evidence the same types of resistance.

But the developmental pressures for physical infrastructure support in the suburban growth corridors are overwhelming. The physical geometry of the 1990s' economy has been decided. We do not have to invent the future; the tax policy-driven office builders have set it in place. □

Critique: Four Suburban Office Buildings

This is the second in our series examining current architecture in New Jersey. Four suburban office buildings were selected as catalysts for discussing the phenomenon of this building type — the evolution, program, context, and image of the suburban office building. Richard Rogers' PA Technology Center in East Windsor, Gwathmey-Siegel's Condo Office Group in Hillsborough, the Enerplex buildings by SOM and Chimacoff at Forrester Center in Princeton, and Arbor Circle in Parsippany by Kohn Pederson Fox do not necessarily represent the four best or most illustrative buildings of their type. Rather, they were chosen because they are accessible, provocative, and unpredictable examples of the suburban work environment.

The participants in the roundtable were Robert Cerutti, John Doran, Gerard F.X. Geier, Glenn Goldman, Philip Kennedy-Grant and Herman Litwack.

RC: What I find interesting about the suburban office building is that the usual determinants of form in architecture — that is, their specific program or context — are generally lacking in this building type. The suburban office building is in the middle of nowhere, with no existing urban or community fabric to relate to, no specific program as there is for, say, a library. Why are the expressions in these office buildings so different and some seemingly whimsical? I think the source of this problem is the lack of those two determinants of form, program and context. By nature these buildings have no context. They're out in the cornfields. On the other hand, the office building historically was in the city. All the great skyscrapers are office buildings. They share the problem of entrance and vertical circulation.

PKG: And the creation of an image as well.

RC: Right. What happened when this building type was moved to the suburbs is an entirely different problem, the problem of the automobile.

GFXG: What's the difference between approaching this kind of building and walking to a building in New York, where you get off the bus or come out of a subway and walk to a building?

JD: That's a key issue. When you step out of your car you're in a parking lot; few people are directed toward the front entrance. That entrance has clearly become only a symbol, because now people enter through whichever door is closest to their car. The axes and so forth are strictly references to another time, when you drove up in your carriage and were left off at the front door.

RC: The problem with the suburban office building is that there is no sense of place from which to depart, as there is on a city street.

PKG: Yes, but in the city you don't have the sense of a skyscraper when you leave a parking garage and walk two blocks to the entrance.

RC: But you immediately walk onto the street, which is the basic organization of the urban environment. Once you're on the suburban highway and lack a context, it's amazing what people will do to attract your attention.

PKG: I don't agree that the suburban office building lacks a context. It has a different context.

RC: A weaker context.

PKG: It's not architectural in the way the city is architectural.

GFXG: I don't agree that a lot of these buildings lack a set of programmatic issues. Many designers make excuses for the lack of ingenuity and design quality in office buildings by saying they don't have much to work with. But when you look at buildings of this type, you realize that's not true. The issues include the parking lot; the sequence of entry to the site and the building; the lobby and interior circulation. You could go back to the Beaux Arts idea that circulation determines building form. What are the vertical and horizontal sequences of space? Beyond that, it becomes an issue of wrapper: what is

around the building and what does that have to say about the building? Is it consistent with its intent and with its context? I think those are the only criteria that we have to evaluate these buildings. Many buildings don't even fulfill those basics.

HL: I wonder how you can judge these buildings except by their contexts. None of us knows the program given to the architect, what the developer wanted.

PKG: In most cases developers try to maximize their return. If the architect says he can put a handsome 90,000 square foot building on this site, the developer says he's got to have 130,000 square feet or it doesn't make sense economically. So you lose the generous entrance, a sense of arrival. I think the problem lies in economics.

GFXG: There's no question that you have to work within constraints, but everyone works under the same constraints, and still there's a difference between the feeling one has upon entering the SOM building and its sequential of experience than there is in the KPF building.

PKG: Why is that? Each is one of a pair of buildings.

GFXG: The KPF lobby is built in a language that we can understand. The SOM lobby, however, is a big open space, and the primary expressions of that space are vertical duct work and structural columns. The SOM lobby doesn't attempt ornament or detailing. So even within the constraints of a lobby, we get back to the notion of wrapper — a wrapper on the inside. These are the poles we've seen. We also have to bear in mind the potential budgets for these buildings. I suspect that based on materials, design and detailing, the KPF building had a liberal budget versus Enerplex, which probably did not.

JD: I heard from a developer recently that what he quaintly refers to as the "product" requires a higher level of quality now. The tenants are demanding it, and he contends that his higher quality developments are renting competitively with lesser quality developments. In fact most of his tenants come from what are perceived as poorer buildings. So the excuse that developers are generating all this building is perhaps a trifle self-serving on the part of the profession of architecture.

GFXG: I don't think it's the developer's fault any more than it is the architect's fault.

JD: So we'd all like to have better clients. Ultimately the obligation is ours.

GFXG: I agree. People are tired of working in mundane buildings. Developers find it easier and profitable to rent well-designed buildings; that's a major selling point. It's taking some architects a while to come around to this fact.

PKG: I think that what used to be considered well designed quickly became subsumed into the office building cliché, like the atrium and use of color. Once upon a time these were great ideas; now we've got to have an atrium on the inside and a red stripe around the outside of our buildings.

RC: And a rich material.

PKG: The interesting thing to me is that all four of these buildings were designed by reputable architects, and I don't know that they represent the state of the art in suburban office buildings in New Jersey.

JD: I suspect that the state of the art is quite different. It's an economic game.

PKG: But other buildings in the neighborhood of Enerplex have the same ordinances.

GFXG: Let's be realistic. With a developer breathing down your neck it is easier to forgo giving the design a context or a form. So many factors are driving the state of the art in the opposite direction, and it takes a skilled firm to pull it off.

RC: I think we're looking at design image, imagery of design. The image of the Chimacoff building is energy; it's a marketing device.

PKG: They were trying to show that you could put energy — conscious design into a building and it would pay off.

RC: The image of the Gwathmey-Siegel condos I think was



Arbor Circle

that of barn structure. All of Hillsborough has barn buildings sitting in the landscape. This project comes nearest to picking up the local vernacular. In other less attractive office buildings, that vernacular gets lost. The PAT Center was commissioned by a high-tech English company trying to make a name for itself in North America. A high-tech image is the most important issue. That building probably cost more than twice what a one-story spec office building across the street would cost. PAT Center is an interesting building because its siting is clumsy. It's plopped on a rectangular lot and the entrance is axial. From the road the organization of the building is very clear. The office space flanks the circulation and the services, which go down the middle. You have to keep in mind that, as it stands now, the project is incomplete, and in the complete design, you're to enter into a court on axis.

GG: It is certainly a unique building.

RC: The building is an example of what I would loosely term structural exhibitionism. It makes a big deal about providing column-free space, and that space gets divided quite a bit by partitions.

GFXG: There are less expensive ways to provide column-free space.

RC: In its imagery, Rogers' solution shows how these A-frames with their cables hold up the roof — it's a diagram. Very dynamic.

GG: The clarity of organization coupled with the clarity of intent and image is what makes PAT Center architecture rather than just another office building. In that sense this building advances the state of the art — certainly among suburban office buildings in New Jersey.

RC: It satisfies more than just space requirements.

GFXG: The other key ingredient to PAT Center and to a number of other buildings — both what we looked at and what we didn't look at — is that the visual concept is carried through from the grand scheme all the way down...

RC: ...to the doorknob.

GFXG: There's a consistency that lets you read this building from a distance. I was more turned on by the building up close than I was from the road. First, it's in a truly rural location. It has no context other than that the barn nearby has a similar profile. Up close you see the screws and the stainless steel

bolts and the door pulls, etc. The overlapping of large-scale and small-scale details works. I think Arbor Circle has much the same quality; you read its image from a distance but as you get closer you read more detail, which brings you further into the building.

RC: Those are two different theories of architecture. One building's screaming at you about how it's built and the other is built and read in a different vocabulary.

GFXG: But both carry through the original image to details.

RC: That's just good architecture.

GFXG: I don't think many buildings succeed on both levels.

JD: That's a good response to the question as to how we judge quality: when richness of detail supports the concept. All four buildings attracted us. We may like or dislike any one, but all of them exhibit a level of quality. I think quality is a less mysterious phenomenon than we might imagine. Clearly the first thing that attracts you to PAT Center and to the Gwathmey-Siegel condos is that they look different.

PKG: From what?

JD: From our prescription of the ordinary office building. They are different either because the program is somewhat different or (in my view) because somebody's concept of realizing that program was different.

GG: We had better be careful that we don't use difference alone as the criterion of quality.

PKG: Behind those buildings somebody was thinking, and we're trying to figure out what they were thinking. What KPF thought about and the way they executed it worked well.

HL: It looks like an institution. A few more bars and it would look like a prison.

GFXG: The condos succeed in solving the problem of how to build a small-scale office space. The problem that I see is that in its final form the project is overwhelming. However, the public can easily read its statement.

PKG: They're different. I mean they're smaller than most other office buildings, intended to be repeated, like bunnies that multiply on the roadside. They were good when they were six and when they are 400 they overwhelm the site.

RC: The scale is manageable, however; you can relate to the repetition of that one little module. They're little barns.

GG: In intent the solution is good, and formally, from the front they were well thought-out; but when you add them together and to the site planning, when they turn corners or don't turn corners, the side elevations aren't nearly as developed as the facades.

PKG: The good idea wasn't expressed on the inside, either. I'm talking about the volume, the eight-foot ceiling.

RC: I gather that they justified that entrance height by putting the mechanical units inside rather than on the roof. The diagram in simple: serviced space and service space.

GG: I wish it added up to more than the sum of the parts.

PKG: To me that's a built schematic design. They didn't go through to the details.

GG: Arbor Circle is a pair of buildings that may stand alone or when put together make up something greater than either piece.

PKG: It's wonderful that the buildings become walls to create an outdoor room — which is really the relationship of inside and outside.

JD: Much of how we see the Gwathmey-Siegel project has to do with its site. If we were meandering around a nice pond or a river, we'd probably see the project differently.

GG: But isn't that a burden of architecture? To respond to the site?

RC: Yes, but that's what the architect was given to work with. It's an oddly shaped piece of land.

GG: The original design is more powerful than the outcome.

RC: You do circulate against the curve of the entrance and then filter back to the parking lot. There is no grand entrance; you meander until you find the office you're looking for, and then you park. It's not a great distance. Unlike a huge work environment, which takes away the sense of identity, the con-

dos provide each business with its own entrance and its own sign on the wall.

PKG: What do people think about Chimacoff using solar energy as a theme and how the building works with the SOM building: one is modernist and the other has a postmodern articulated facade.

GG: The curious part about the Enerplex complex is that it's supposed to be based on energy conservation, yet the design emphasizes instead the relationship between the two buildings. One faces north and one faces south, so that they face each other. I'm sympathetic to the subordination of the concern for energy to humanistic and organizational concerns.

GFXG: You can't always solve the solar orientation the way you might want to — the site isn't always in the right place. Here, once you've related the buildings to each other, you can respond to solar orientation; and it's done differently in each building. The Chimacoff building has an awning on the south facade because it deals with the building as office space. The SOM building uses the south facade as a common space and as a solar collector.

PKG: I don't think the buildings work well together. The space between them is too long and narrow and unfocused. I do agree with the way they are sited, and that solar orientation needn't be the overriding consideration.

GFXG: I wonder how much collaboration really took place between the two parties in terms of developing that central space. The buildings don't speak to each other, because the entries are at different locations, and there's no path connecting them.

PKG: The buildings are close enough to hang your laundry between them. It's an alley between two buildings.

GG: Other curious decisions are the materials and circulation. The Chimacoff building is obviously wearing much better than the SOM building.

JD: The SOM building looks like an abandoned amusement park. It is depressing because the space is empty, and it isn't clear why. It has a large space that doesn't have an apparent use, except that it provides circulation to an invisible entrance.

RC: Why is there such a panoply of materials and colors and forms among suburban office buildings? You know what material you want to use when you're designing a building in Philadelphia.

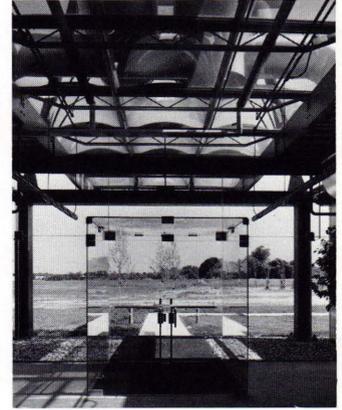
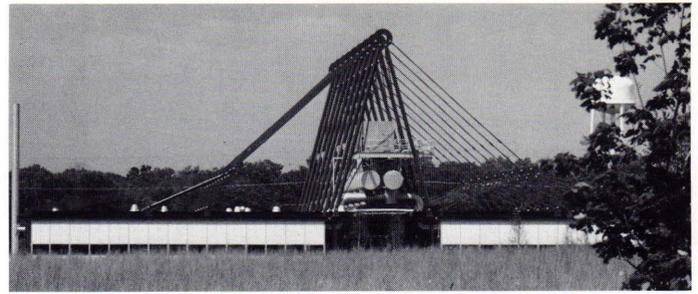
GG: Around this table we may have a common idea of materials within contexts, but in the last twenty years not everyone has used similar materials within one context. The urban context is pedestrian; the suburban context is perceived from the highway. You see buildings at twenty, forty, fifty miles an hour. I'm reminded of Venturi's *Learning from Las Vegas*.

PKG: Building as billboard...

RC: From a car.

GFXG: Paul Goldberger has a theory that a big problem with urban architecture today is that every building tries to be more "muscular" than the one before it, but traditionally within the city many buildings are simple and straightforward. They don't make a big statement; they are background. Then every once in a while a Chrysler building happens and it's great. Unfortunately, in the suburban context there's no continuous wall or texture, so that each building, whether it is meant to be or not, becomes an object. We see these buildings outside the overall context.

GG: I saw a new small office complex in Englewood that consists of several connected house-sized units. They are set back from the street, which has single office buildings, garden apartments, etc. At first glance you think this complex had been there a long time. The second time you drive by, you see it's a bit different, a little fresh, and that it wears well in its suburban context — not the open field suburban, but certainly not an urban context. This result is possible if we don't limit ourselves to the building wrapper, if we include the rest of the site in our designs.

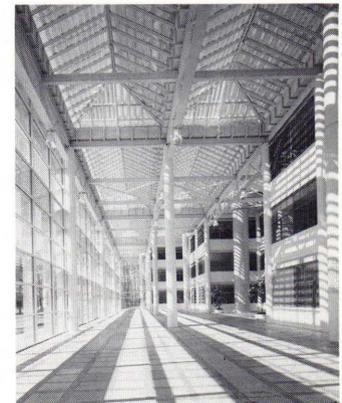
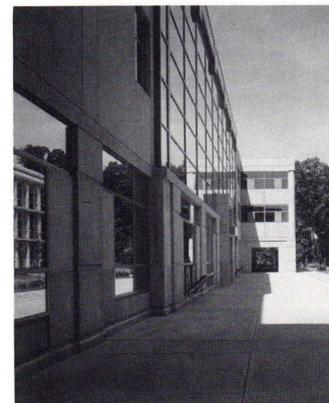
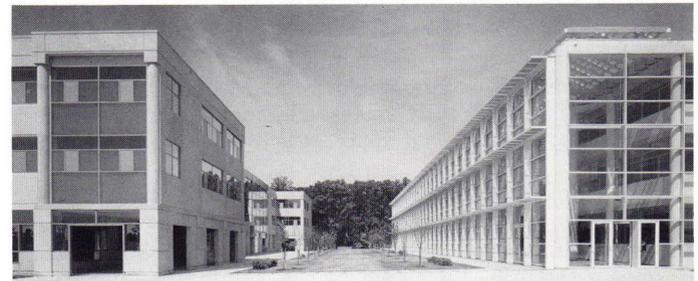


PA Technology Center

Photos: O. Baitz

RC: Why is it, then, that the worst office buildings in the city are nowhere near as bad as the worst office buildings in the suburbs?

PKG: Suburban office buildings on the whole seem not as well designed as they ought to be. They seem to scream for attention at sixty miles an hour. There's an absence of classical or traditional architectural ideas — arrival, entry, the humanistic aspect. And the suburban context is not clear. How do we judge quality — not just in this building type but in all types? By the clarity of the idea, the consistency of expressing the idea from the large scale to the small scale, the attempt to rise beyond function and breathe some architecture into a building. □



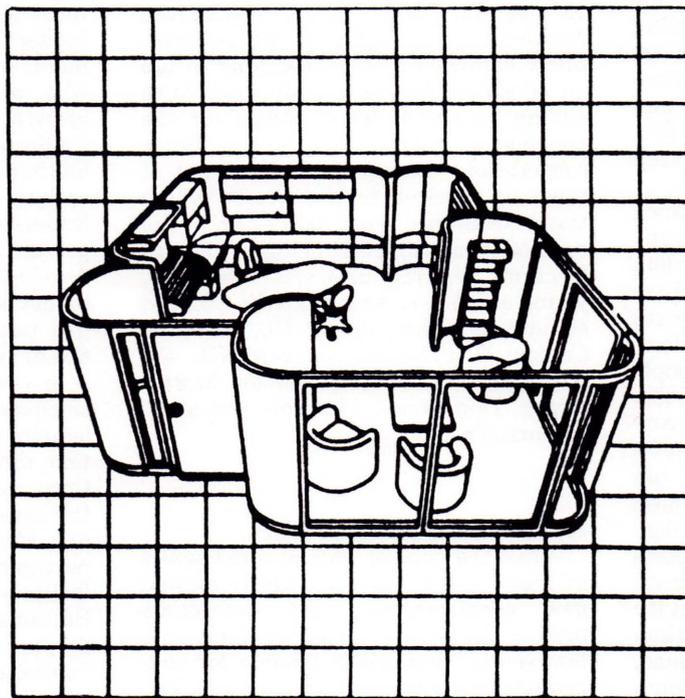
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Back to the Suburbs

A spate of office construction causes clashes in the countryside

The following article is reprinted from the April 21, 1986 issue of Newsweek Magazine. The editors appreciate the cooperation of Newsweek in allowing ANJ to reprint it.

For Pat Widmer, driving to work in north Dallas can take the determination of General Patton and the patience of a saint. She leaves at about 7:30 a.m. for the drive to her office — a gleaming 16-story high-rise in what once was a sleepy suburb. Cruising at 7 miles per hour on the congested expressway, she passes the wrecks from early-morning accidents. The trip takes about 40 minutes; Widmer spends the time mumbling memos, “to do” lists and reminders for her children into a Dictaphone — anything, she says, “to keep my sanity.”

Once the singular lot of the downtown commuter, suffering through traffic snarls now afflicts many suburban workers as well. That's because America is undergoing what experts call a “second suburban migration” from the cities — this time not of people and homes but of offices and jobs. Almost two-thirds of all new office construction now takes place in the suburbs creating vast agglomerations of big buildings, people and cars. Since these developments can produce urban densities far from the city, land-use experts can't quite agree on what to call them: “megacenters,” “suburban activity centers,” urban villages or suburban downtowns. Whatever they're termed, within 15 years many of these corridors will contain as much office space as New York City, San Francisco, Dallas or Washington, D.C.

Growth Moratoriums

The sprawl of development is giving rise to thorny public-policy issues — and prompting a slow-growth backlash in some communities. Traffic is only the most visible of the problems. Esthetic and environmental concerns are also widespread, since many megacenters seem like little more than “linear junkyards,” says Richard Galehouse, a principal of Sasaki Associates, a planning-and-urban-design firm based in Watertown, Mass. Increasingly, many communities that wholeheartedly embraced new commercial development — primarily seeking the benefits of increased tax revenues and jobs — are unexpectedly finding it a mixed blessing. As

a result, even suburbs still gunning for growth are groping for ways to deal with the headaches it brings.

The current wave of suburbanization has been under way for less than a decade. Even as office construction in the cities has boomed during the current economic expansion, changes in the workplace and society have spurred many companies to expand out of town as well. Computer and communications technology and the growth of service industries have enabled many back-office and other operations to be shifted to the suburbs. Rents there may be one-third to one-half below those downtown; moreover, by moving to the suburbs, many companies have been able to tap an educated, largely female work force willing to accept lower wages for the privilege of staying close to home. Some corporations have moved offices out of town to be close to the exurbs where their executives like to live — or, in the case of many high-technology firms, to locations offering lifestyles that draw young engineers. Areas like the Chicago suburb of Schaumburg, Ill., Fairfield County, Conn., and Princeton, N.J., are now prime office locations for Merrill Lynch, Dow Jones, Motorola and other corporations.

Short-lived surplus

While the current glut of office space in many areas has temporarily slowed new construction, most developers predict the pace will pick up again in a few years. That spells trouble for congested areas like Tysons Corner, Va., central Orange County near Los Angeles and “Contra Costapolis,” the swath of development in Contra Costa County east of San Francisco. A major shortcoming in many places is that, unlike in cities, there hasn't been an organized constituency or local government anticipating the problems associated with growth. “You've got strong county government headquartered someplace else that has a half dozen [megacenters] scattered around and isn't thinking of any of them as ‘downtown’,” says Frank Spink, director of nonresidential research at the Urban Land Institute, whose members include planners, developers and property owners.

Where there has been an activist citizenry, the response has sometimes been to put brakes on further growth. More than 20 suburbs around San Francisco have in recent years enacted controls to slow the pace of development; in Walnut Creek, an affluent suburb in

Contra Costa, voters last fall approved a measure barring commercial construction of buildings of more than 10,000 square feet until traffic at 70 congested intersections is sharply reduced. The measure halted 23 office and retail projects, and at least one large employer in the area has filed suit to overturn it. “We're not antigrowth,” insists Evelyn Munn, who helped form a citizens' group that fought in favor of the moratorium. Still, she argues, better roadways should be in place before more large traffic-generating projects are approved.

Such controls may not only reduce future employment; they may also prove ineffective solutions to the problems at hand, says Cynthia Kroll, an economist who conducted a recent study of slow-growth initiatives at the University of California at Berkeley. Instead of halting growth, other communities are seeking to manage it better. Filling a leadership void in some areas, public-private partnerships or groups of developers and employers have formed to devise new approaches to problems like transportation. For example, even the moderately heavy traffic along U.S. 1 in central New Jersey can prove so tiresome that it “just stays with [employees] all day,” says Jack Lowenstein, director of administration at FMC Corp. near Princeton. As a result, with the assistance of Washington-based Urban Mobility Corp., a consulting firm, partnerships in areas like Princeton, Dallas's Parkway Center and the Baltimore-Washington International Airport corridor have created “transportation-management associations”; these TMA's have helped FMC and other companies to adopt staggered or flexible work hours, car pooling and shuttle service to mass transit in order to reduce congestion.

Expanding roles

These steps alone aren't expected to reduce overall traffic around megacenters. “Traffic conditions will get worse, there's no doubt about it,” asserts C. Kenneth Orski, president of Urban Mobility. Planner Galehouse notes that many megacenters have been built along beltways that were designed to route interstate traffic around cities and were never expected to serve also as destinations in themselves. Building mass-transit systems may not always make sense, since commuters can come from all different directions. As a result, in a reversal of the no-growth sentiment that prevailed in the 1970s, there

is growing pressure to expand existing roads or build new ones. Officials in Virginia's Prince William County near Washington recently called for higher state gasoline taxes, new tolls and the issuance of more than a billion dollars in bonds to finance new transportation projects.

The call for new state funding reflects a grim reality; federal highway and revenue-sharing funds that localities counted on in past years are drying up. Thus, many communities are hitting up the deepest pockets around — employers and real-estate developers themselves — to help finance roads, sewers and other infrastructure. In Buckhead, an affluent Atlanta, Ga., suburb that is now a mecca of office development, local employers were encouraged by Fulton County officials to put up about \$1 million in seed money to build a new \$5.2 million bridge at a nearby highway interchange. The county is also one of a growing number that has begun to impose so-called exactions and impact fees on commercial developers, requiring them to donate land or foot the bill for road improvements as some residential developers have been doing for years. While builders elsewhere have sometimes fought exactions in court, many now embrace them. "They're finding out that the alternative is building

moratoriums," says Michael Stegman, professor of city and regional planning at the University of North Carolina at Chapel Hill.

The concern about traffic in megacenters often serves a proxy for subtler problems. Designed around the automobile — and to complete garishly for attention along highways — many suburban buildings are simply ugly, says New York architect Henry Brennan. Moreover, "the office environment in highway corridors [provides] little of what we want out of life," says Samuel Hamill, executive director of the Middlesex Somerset Mercer Regional Council, a public-private partnership in New Jersey. Many suburban offices lack on-site shops and services, making life dull and inconvenient for workers. "If you want to go to lunch, you have to get in your car, and the best you can probably do is a Bennigan's," jokes Fred Bosselman, a Chicago land-use lawyer. Along the new Interstate 75 corridor east of Tampa, Fla., the Tampa Parkway Association, a group of developers, hopes to convince county officials to adopt a plan proposed by Sasaki; discarding conventional zoning standards such as density, it would allow areas of controlled "high-intensity" development mixing offices with shops, homes and other uses — more closely approx-

imating the variety and efficiency in urban downtowns.

Losing charms?

Elsewhere, a less scatter-shot approach to planning and zoning may also be needed. William Grams, executive director of the Northwest Municipal Conference of 29 communities near Chicago, notes that the area he represents is "becoming much more of a region than a group of individual cities and villages"; as a result, he says, the communities are adopting more centralized strategies to plan for and solve the problems of future growth.

The price for inadequate planning may be that the suburbs and exurbs lose the charms that attracted companies and residents in the first place. "There's a great deal of concern" that rural Maury County, Tenn., the future home of General Motors' massive Saturn project, not turn into another Dallas, admits county commissioner James H. Jones Jr. This month the county is scheduled to commission the drawing up of a comprehensive master plan for its development — one that it hopes will prevent the most prevalent species of local fauna from becoming the building crane. □



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Conversation With a Client

The following is an excerpt from a conversation between Alan B. Landis, Managing Partner of Carnegie Center Associates, developers of Carnegie Center, Princeton, and John Doran, AIA, a member of Architecture New Jersey's Editorial Board.

They discussed the development of Carnegie Center and the Route One Corridor.



Alan B. Landis

ANJ: As architects, one of our principal interests is the forces that dictate the built environment. When you select an area for potential development, what are the most important factors you consider?

AL: With my roots being in the development of shopping centers, I focus my sights on population trends either originated or generated by large retail users who are interested in a particular area. They more or less tell us where the trends are and where the growth is. We focus often on road networks and patterns (though Carnegie Center is contrary to this philosophy), I like turnpike interchanges, parkway interchanges, major interstate routes with large secondary arteries as premier locations, I'm a big believer in the State of New Jersey; I don't think you could go wrong anywhere in this state. New Jersey is incredibly diversified, we have no ties to specific industry.

ANJ: Is that study largely scientific or instinctive?

AL: Largely instinctive. Sometimes there's scientific backup to it, but it's mostly instinctive. In this particular instance, I'm from the area so my instincts certainly are stronger than when I'm flown through a suburb of Atlanta or Kansas City. When it comes to Jersey, I rely more on my instincts than on scientific data. If I'm out of this state, I go with more scientific data.

ANJ: Are you finding it more difficult to get approval for development plans because of environmental concerns, such as wetlands and stream encroachment and things of that sort?

AL: Yes, the process is becoming more difficult, more time-consuming, more of a burden, and it's a problem. Sometimes we have to settle for our second choice of site, which is unfortunate because we like to think that everything we do has been done as we wanted from locating a site to product design. We can control our quality, design, and so on, but the location is still a primary consideration; wetlands and other environmental issues have caused projects to fold because of the time constraints they pose.

ANJ: Do you feel a community has the right to prevent the execution of the development project if it feels it would add to its local and regional problems?

AL: I feel they have a right, but the complexity of the problem is more than just one community rights. Has the community

zoned the property properly for development? And if they have zoned the property for development, how have they contributed to the off-site support structure, meaning the road systems, essentially the infrastructure network? We've had communities dying to get us to invest 100 million dollars in development, but the local infrastructure couldn't support it. When I say infrastructure, that includes state, county, local infrastructure. I think some communities may want the benefits of the ratables and the kind of product we bring in, but where does their contribution come into play? Some of the problems we face stem from the fact that a lot of community movement has nothing to do with common sense or reality; it has to do with what is politically expedient at the time. That's where we wind up with certain conceptual problems in dealing with many local communities. Their philosophy is, if this administrator isn't going to approve a project, sit and wait it out till the next one. We don't find that very constructive.

ANJ: Has it been your experience that sometimes communities don't think about these problems until you propose a development?

AL: Without question. I don't think that's just a Jersey problem; that's a national problem. The community takes an interest when you submit your proposal. They'll start focusing on potential problems then.

ANJ: Do you see any way that private developers can coordinate efforts so that traffic and environmental concerns can be considered regionally?

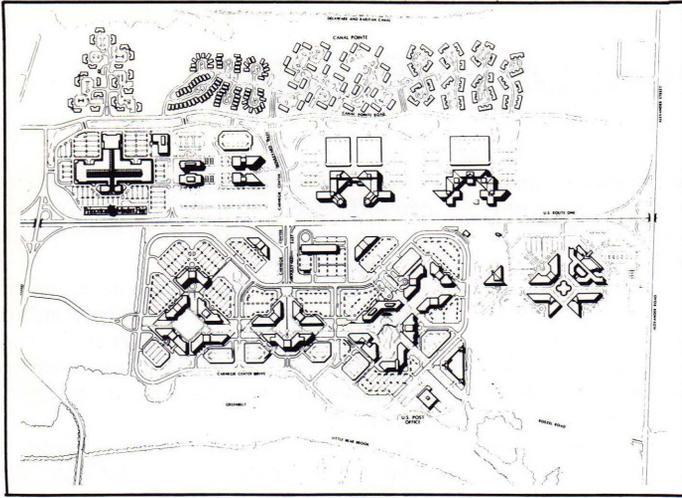
AL: We're a believer in the cooperation between the private and public sectors, especially with regard to infrastructure. We've been pushing forward, fortunately, in a few of the communities, including the one we're sitting in right now, West Windsor. They've implemented the Transportation Improvement Districts (TIDs), and through the TID the community assesses the developers on a per-square-foot basis for off-site improvements. I believe in that as long as developers have an equal assessment per square foot, so that we can remain competitive. I mean, don't put me in a marketplace where I'm bidding IBM and my competitors bidding IBM, and because I've been assessed and he hasn't, he can bid them cheaper. As long as it's done fairly, I'm a believer in the developers-builders paying a share of these TIDs for off-site improvements.

ANJ: Is there any indication that developers would be willing to do these things voluntarily, or does the competitive nature in the development industry make that unlikely?

AL: Our firm voluntarily makes off-site infrastructure improvements when it's important to the movement, the time sequencing, the program of product that we're putting up. I don't think that's the norm. I think the norm is to try to bulldoze your way through and get state or local agencies to do the offsite infrastructure for you. Our preference clearly, is to have the burden of the infrastructure shared equally between the community and the developers.

ANJ: When you look at an area with a tremendous amount of development, like the Route 1 corridor, do you foresee traffic becoming such a problem that all the developments are adversely affected?

AL: Since before we put our first shovel in the ground 5-6 years ago, traffic has been our single largest concern in terms of planning for continual growth. Can the Route 1 corridor keep pace with the growth of the development, and will the proper people contribute to make sure it does keep pace? We've done almost 150 million dollars of development here in about 4 years, which is a nice degree of development. We can do wonderful internal and infrastructure development in Carnegie Center but our work still relied on what sits on the corridor. The corridor is a significant problem. There are a lot of well-meaning groups trying to expand that corridor in the



Carnegie Center Master Plan.

right way. We hope we can help that program along, as it is our largest concern.

ANJ: *The fact is, though, that no overall agency has jurisdiction over the corridor; it's a string connecting a series of individual municipalities.*

AL: I have mixed emotions about that, because there are many communities on this corridor and they don't always see eye to eye. The problem is that the corridor is no better than its weakest link. If there is a breakdown at any point on Route 1, it hurts all of us. I would love to see all the communities and adjoining communities working together. I don't know if that can happen. The issue of appointing a regional overseer to the corridor is nice in theory. My problem with such a proposal is that it might end up as another large level of bureaucracy, which could make the approval process so time consuming it would effectively kill major projects. When we have a large client coming from New York, for instance, who wants to locate here in x months, if I have to go through seven more agencies, we can't give that client a delivery date.

ANJ: *How was the master plan for Carnegie Center developed?*

AL: After an extensive interview process, we put together a team including the master plan architect, Stubbins Associates; a landscape architectural firm, Hanna/Olin Ltd., and William H. (Holly) Whyte, one of the world's foremost sociologists and urban planners, to help as a consultant. We also hired the Department of Anthropology and Dr. Setha Low of the University of Pennsylvania to do a study of corporate parks in the northeast and interview people and employees who worked and lived in the park environment about what they liked, what they lacked, and so on. We hired Day & Zimmermann Inc., an engineering firm, for site and civil work. That was the nucleus of the team put together to work with Stubbins. We worked closely with them for almost two years on the design of this particular park.

ANJ: *To change focus a little bit, how do you select your architects?*

AL: We like to think that we always select our architects. The reality is that sometimes they're selected for us, usually by the user. Once in a while a large user group that wants space will dictate to us which architect it prefers. In the instance of Carnegie Center, we're under a master plan design guideline with a design review procedure. We carefully select architects who can work within those design review guidelines. There are enough strong New Jersey architectural firms that we are able to pick and choose. I would say the selection process is based on prior work that we're shown and the individual project manager that the firm might assign to our job.

ANJ: *Do you invite architects to present their qualifications to you?*

AL: Whether we do or not, we don't go through a month in this office without having many architectural firms present their

qualifications to participate in a project like Carnegie, which has a multitude of buildings left to be designed and a multitude of architects to be selected.

ANJ: *What do you look for in your architects?*

AL: It may be that what I look for and what my construction group and project management group look for are different things. I look for a little empathy and a good working relationship between client and customer. We want a product to feel a certain way, to appear a certain way, and we would like the architect to feel the way we do. When I go to an architect, I'd like him to understand where my heart and my head are coming from in terms of the product I want. Our construction group and our project management group want to know that an architect can work within budgetary constraints, and certainly we all want to work within some reasonable design review guidelines and criteria.

ANJ: *Do you personally participate in the design process?*

AL: No. I try to give out a few of my thoughts, but once I've decided who the architect will be, I usually take the posture that he's a pro, he knows more than I do about design. I may have my own feelings about something, but I don't override an architect when he says, "This is what this building needs and it's very important for the building." I do appreciate it when he says, "We're down to three things. We can live with any of these three, you select it." I have been involved to that extent. We usually have a nice interplay between the construction group and the design group, and between me and the architect. When it comes to the final design, I want my facilities people, my operations people, my marketing people, and my construction people in the room. But when it comes to significant architectural decisions, exterior and interior, the architect tells me what he wants and what's important to the product.

ANJ: *Do you find potential tenants more demanding in terms of quality?*

AL: Yes — I would say that Carnegie Center is an example of that. Here we're focused on the quality of the product and public amenities, to the extent that people felt we were a little crazy to spend the kind of money we did; they felt it would take so long to be paid back. But Carnegie is an example of getting paid back in a short run. We seem to be the only people who are still building and whose buildings are fully occupied. It seems to me that in development today there's an emphasis on quality.

ANJ: *You indicated in an interview with another magazine that the additional rental costs for this quality are not in fact very great. Are the rents at Carnegie competitive with lower quality buildings?*

AL: In this corridor there are six or seven developments going on, and we have tried to stay within fifty cents a foot on our rent quotes. There are some developers in almost desperate situations who are giving space away with long concessions. I can't compete with two year concession-type packages; but when it comes to pure rental quotes, we are competitive. I'm not saying this space is not costing more to build, but we see our relationship with a tenant as long-term. We may not be making any money for the first couple of years, but we move clearly into the black as the arrangement continues. In a short time here at Carnegie we've experienced a great deal of space renewal, space expansion by existing tenants, and tenants moving here from adjoining parks. So we feel comfortable that the moves we've made to date have been right.

ANJ: *And finally, what do you see as the future of the Route 1 corridor? Has the office market peaked — is it saturated? Or do you see the possibility for continued expansion?*

AL: You're talking to a great optimist, so it's a little hard for me to answer that. We're a believer in central Jersey, a strong believer. Provided this corridor keeps breathing — because that's our heart and that's the lifeline — if that highway keeps pace, I think you'll see tremendous continued growth in this market and in timely fashion. □

Heating and Cooling the Suburban Office Building

Heating and air-conditioning systems that are both a simple and proper design for a suburban office building will generally result in low maintenance and operating costs.

No matter what other considerations exist, for optimum results it is desirable to build as much inherent thermal control into the basic structure as is economically possible. Such control might include high thermal characteristic materials, insulation, and multiple or special glazing and shading devices.

However, because of their multiple functions, suburban office buildings create unique problems for the architect.

Zoned Spaces

Office buildings usually include both peripheral and interior zone spaces. The peripheral zone may be considered as extending from 12 to 18 feet inward from the outer wall toward the interior of the building and will frequently have a large window area. They have variable cooling loads in summer because of changing sun position and weather, and require heating in the winter. During intermediate seasons, one side of the building may require cooling, while another side simultaneously requires heating. However, the interior zone spaces whose thermal loads are derived almost entirely from lights, office equipment and people will require a fairly uniform cooling rate throughout the year.

Main entrances and lobbies are sometimes served by a separate system because they act as a buffer zone between the outside atmosphere and the building interior.

Occupancy

For buildings with one owner or lessee, operations may be defined clearly enough so that a system can be designed without the degree of flexibility needed for a less well-defined operation. In firms where clerical work is done, the maximum density is approximately one person per 75 sf. of floor area. Where there are private offices, the density may be as little as one person per 200 sf. The most serious cases, however, are waiting rooms, conference rooms, or director's rooms where occupancy may be as high as one person per 20 sf.

Hours of Use

Most office buildings are open for business from approximately 8:00 A.M. to 6:00 P.M. However, some tenants' operations may require night work schedules. Office buildings may contain

printing plants, communications operations, broadcasting studios and computing machine centers which could operate 24 hours a day.

Computers

One of the largest sources of concentrated heat load is the computer equipment used in office buildings. The unique temperature and humidity requirements of computer installations, and the fact that they often run 24 hours generally warrant separate refrigeration and air-distribution systems.

Lighting

The final consideration is that the lighting load in an office building constitutes a sizable part of the total heat load.

All of these individual factors seem to relate, therefore, to the two most important concerns for the suburban office building owner/builder: zone control and individual metering.

It would seem, therefore, that the optimum system for heating and cooling suburban office buildings would be one that allowed individual tenants to have their own system which they could zone to their own use. By providing separate systems, with individual meters, the owner/builder would be assured that each tenant would have sufficient heating and cooling regardless of the type of business or hours of operation, and would be relieved of the costly burdens of billing, etc.

The system which would best meet these criteria would be a hydronic heating system, involving individual boilers for each leasee. This type of heating system would provide the most flexibility, cost control and comfort. It can also be used with either gas or oil.

For those unfamiliar with hydronic heating, the principle is a simple one. Water, heated in a boiler, is circulated throughout the system in finger-sized copper tubing. As air passes over the finned radiation at the baseboard, it is warmed and circulates throughout the room.

Individual, high-efficiency, appliance-sized boilers can be placed in a closet, in the basement or outdoors, or even hung on the wall. Each rental unit is provided with its own heat and pays its own fuel bill. Additionally, hydronic heating, with baseboard units, provides the maximum heat at the outside walls where cold is the greatest problem. Larger rental units can be provided with multiple zones to satisfy individual comfort needs. Domestic water heaters can also be tied in with the boiler.

Warm air systems, with their reduced comfort levels, due to blowing hot air, are much more difficult to zone for individual needs.

Overall, given the unique uses and occupancy schedules of a modern suburban office building, hydronics is considered the solution for tenants' heating needs, with economical operation for the owner.

For those months when cooling is desired, a variety of options are available.

Individual, Packaged Units

These cooling units provide the most flexibility and individual control and are usually of the wall variety. They also have the added advantage of easy replacement during maintenance and repair.

Hydronic Cooling Systems

The most modern innovation is a hydronic cooling system, utilizing a "chiller" unit and cooling with fan coil units or valves, which also has the advantage of zoning. While this type of system is slightly more expensive, it has the advantage of individual metering.

Ductless Split Systems

The ductless split systems can be wall or floor mounted, ceiling suspended or ceiling recessed. Each installation consists of an evaporator mounted inside the conditioned space, and is connected with refrigerant tubing and interunit wiring to a condenser outside. This eliminates the need for ductwork and provides individual control for up to five standard sized rooms.

Central Air Conditioning

A central duct system with multi-zoning would provide the least individual control and would make individual metering very difficult. The ducted system would also create more noise and the discomfort of blowing cold air.

A final word should be mentioned in regard to heat pumps. While these units have been with us for many years, they have yet to prove themselves. The harsh winters of the Northeast severely reduce their efficiency and their reliability has yet to be proven.

Because each suburban office building and each occupant is different, flexibility is the key to providing the most efficient heating and cooling system. □

This article was provided by the Better Heating — Cooling Council, Berkeley Heights, New Jersey.

Sow's Ear To Silk Purse; Spec Shell to Corporate Headquarters

by John Doran, AIA

Recently a new phenomenon is being experienced by corporations and consequently their architects: the need to create and complete a headquarters facility in a short time, often less than a year.

The need usually results from outside forces: merger, acquisition, reorganization or divestiture. Since the process of selecting and acquiring a site, obtaining approvals, programming needs, designing a building, planning spaces and designing interiors frequently takes three years and sometimes longer, particularly since suitable sites are growing more scarce and environmental concerns are extending approval periods, another track had to be found.

The solution: acquire a building already under construction. The site is selected and acquired, approvals have been obtained and the building designed. All that needs to be done is to divide up the space, layout some furniture, pick out the carpet and move in. NOT EXACTLY!

Usually the first difficulty facing the architect commissioned to execute the fit-up is that the same forces that are generating the need for a new facility also tend to obscure the programming process. Internal organization is often in a state of flux. Policy decisions may not have been translated into unit sizes and adjacencies. Standards for space allocations may not have been determined. Because of the extreme time compression, the interior fit-up construction has to proceed along with the completion of the base building particularly where special facilities such as auditoria, computer cells, fitness centers and food service operations must be accommodated in buildings not designed for them.

Structural revisions including column removals and floor reinforcement are not unusual. Improvement and enhancement of interior environmental systems to meet more exacting corporate standards are a must. Upgrading an ordinary rental structure into a "smart building" with adequate data and communications support facilities is a challenge that must be met early in the project. The desire for a distinctive image is a primary concern that frequently requires the addition of exterior features.

The design of these elements must be executed rapidly in order to include them in the construction process without delay. Basic decisions and approvals by the client are vital. The Architect must devise and present options clearly and forcefully including cost and time implications if definitive responses are to be expected. Close continuous contact with the client at the facility management, user and executive level is essential.

Simultaneous with the identification of base building alterations and long lead items, the planning of the interiors must be pursued vigorously. Space standards must be determined and approved. Departments and groups that are to be relocated from other facilities must be interviewed and inventoried. Special equipment that requires structural support or mechanical and electrical services must be found and accommodated. Frequent changes are endemic to the process. Often decisions are based on what works. While planning and layout proceeds selection of furnishings and finishes are pursued as well.

With programming, planning, design, contract documents and construction all going on at the same time strong management is needed to coordinate the hectic activity. Since long lead items need to be ordered well before documents are complete and work must be done on a piecemeal basis (while base building construction is in progress) a construction manager generally is engaged (often the base building contractor) to let the work in separate "bid packages" based on assumed quantities and partial plans for crucial items such as doors, frames, hardware and lighting fixtures. A full time architect's representative on the site is advisable.



Staff dining area
Bell Communications Research Corp. Headquarters, Livingston, NJ



Executive dining area
Bell Communications Research Corp. Headquarters, Livingston, NJ

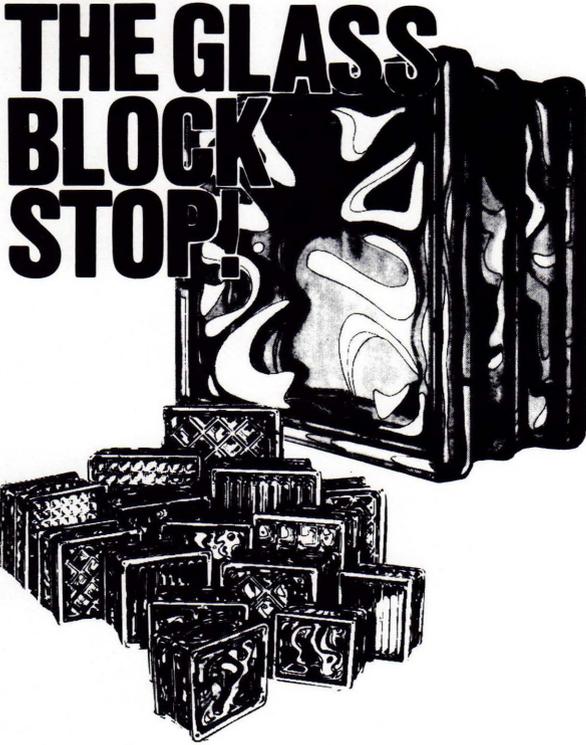


Auditorium
Photos: Robert Wasserman
Bell Communications Research Corp. Headquarters, Livingston, NJ

The challenge of fitting up a spec building is to achieve the desired results within the limited time frame. Executing four or five project phases simultaneously can be nerve-racking. A clear view of the objective and a cool look at the time implication of every choice and decision is imperative. Above all flexibility by a well coordinated multi-skilled team is needed to meet ever shifting client demands. The speed, however, produces its own reward: the finished product visible and complete just in time to start the changes. □

John Doran, AIA is a member of the Editorial Board of ANJ and a partner in The Newark based Grad Partnership.

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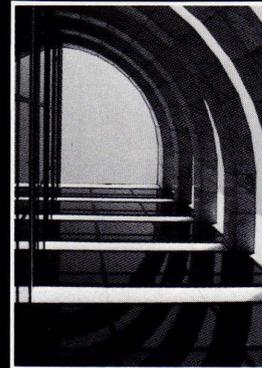
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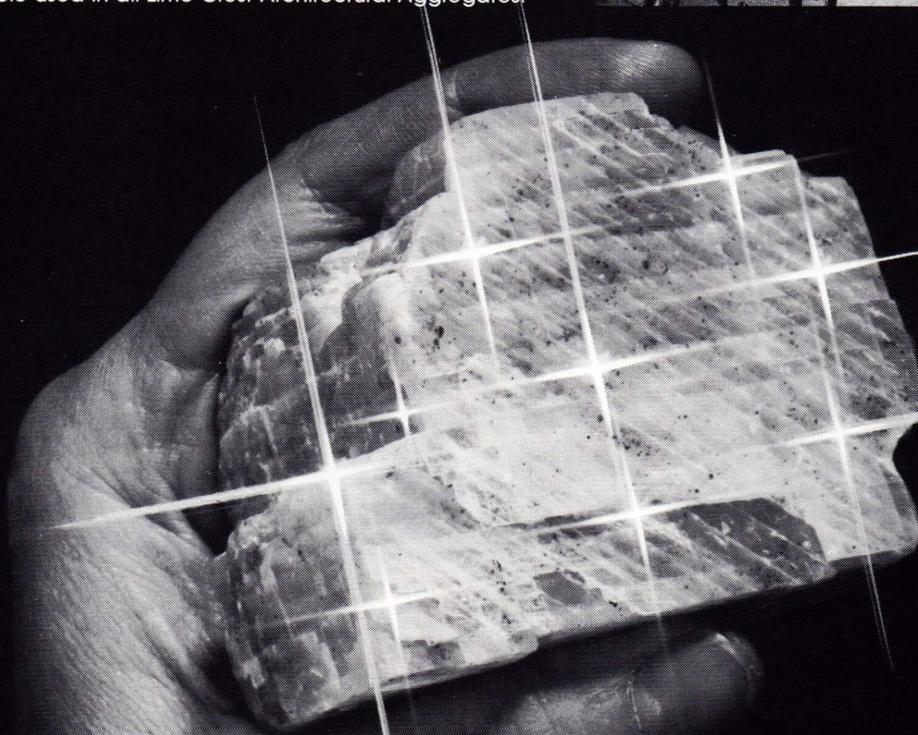
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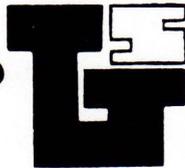
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News

Edward A. Levy, AIA and his son, *Walter E. Levy, AIA*, recently announced the formation of **LEVY + LEVY ARCHITECTS**, Woodcliff Lake.

Richard Henry, AIA, has been promoted to partner of **CUH2A**, Princeton.

Hamilton Ross, AIA, has been named President of **Geddes Brecher Qualls Cunningham**, Princeton.

Eric C. Sallee, AIA, has been appointed associate partner in the Trenton firm of **Clarke & Caton**.

The Balsamel Longo Partnership of New Providence is a continuation of the firm **Convery Cueman Balsamel Longo**, established in 1973. The original firm, **Drake Tuthill Convery and Cueman** dates back to 1953.

Rothe Johnson Associates of Edison will design **Crosspoint Centre**, a complex to be built in Woodbridge, to include four mid-rise towers — three to house corporate office facilities totaling up to 1.2 million s.f., the other to house a 300-room hotel. A fifth major element is a convention and exhibition hall that will be one of the largest in the state outside Atlantic City.

J. Robert Hillier, FAIA, who helped to develop the original program of the architectural career day for Mercer County High School students, presented an award to **Robert Whitlock** of Princeton Day School in commemoration of 15 years of the program. Created to expose students to the profession of architecture, the programs benefits students from many of the public and private

schools throughout Mercer County.

Paul Gallis of the **Grad Partnership**, Newark, chairs the **AIA Justice Conference "Mixed-Use Buildings in Criminal Justice"**, September 24-27 at the **Wyndham Franklin Plaza Hotel** in Philadelphia.

Clarke & Caton of Trenton, has designed the **Trenton Center** and **Veterans Memorial Arena**, a major step forward in the economic renaissance of the NJ State Capital. *The Hillier Group* will join **Clarke & Caton** to complete the project. The 24-story tower will include state and private offices, shops, restaurants, a 10-screen movie theatre and health club. Adjacent will be a 210-room hotel with banquet and conference facilities. A 10,000 seat civic center will have 20,000 sq. ft. of exhibition space.



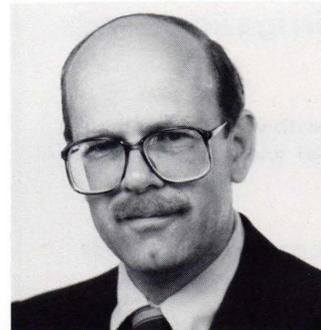
Edward and Walter Levy



J. Robert Hillier, FAIA (center), Sanford Bing, (L) acting Headmaster and Robert Whitlock of Princeton Day School (R).



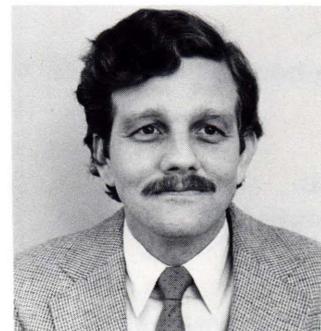
Trenton Center and Veteran's Memorial Arena.



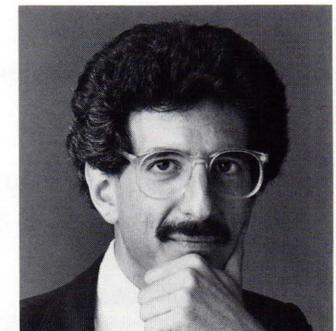
Richard Henry, AIA



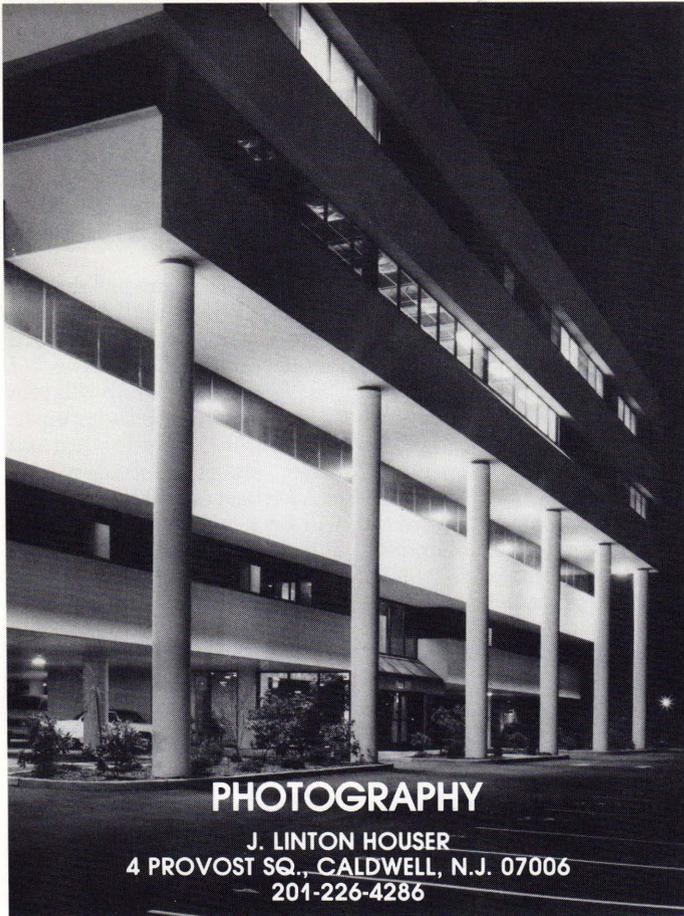
Hamilton Ross, AIA



Eric Sallee, AIA

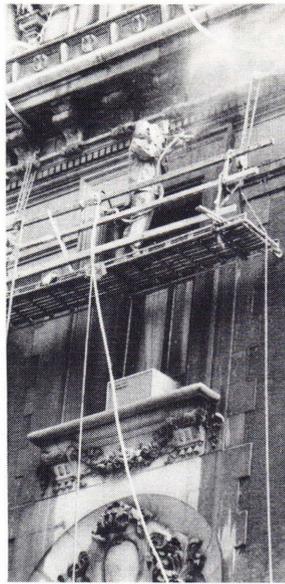


Paul Gallis, AIA



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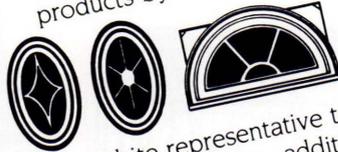
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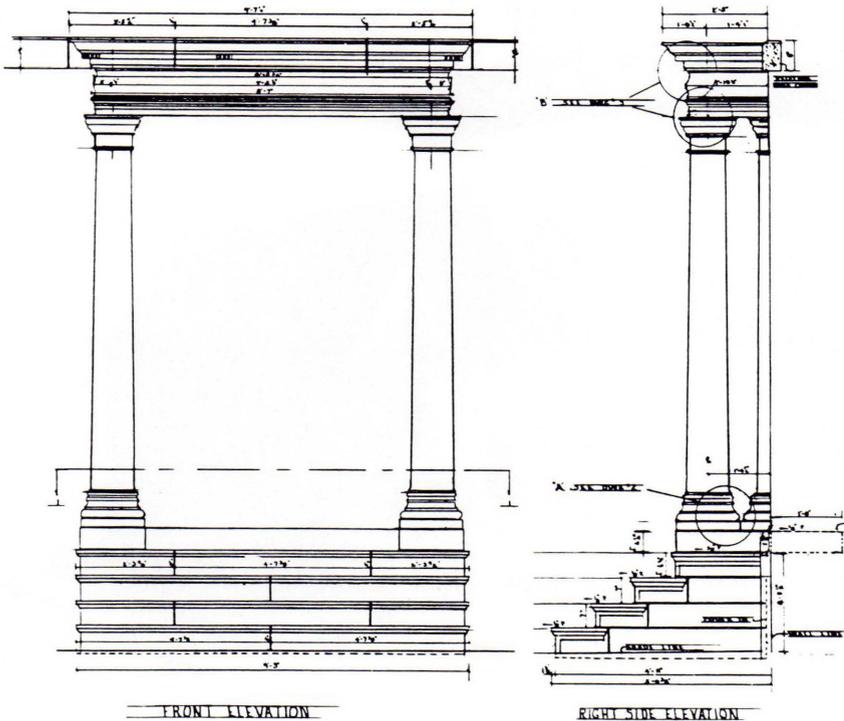
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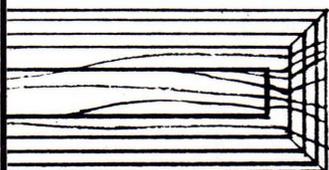
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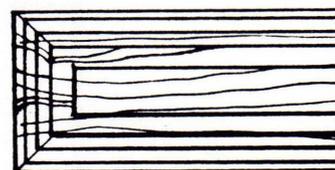
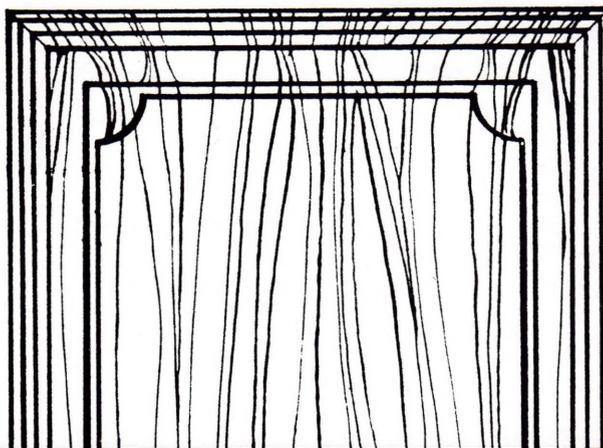
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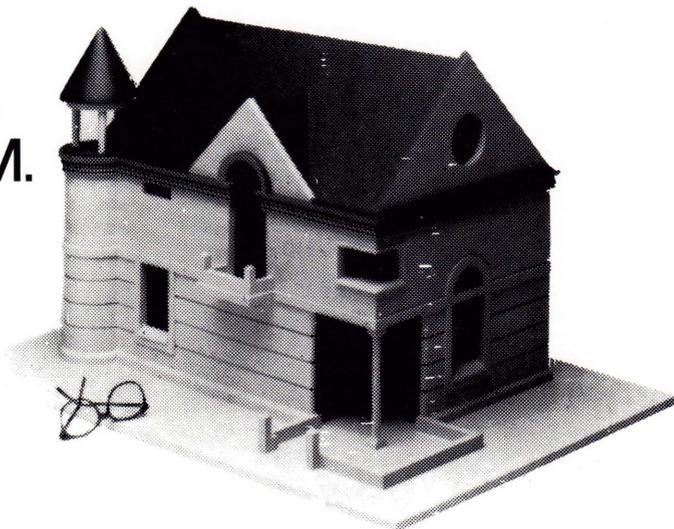
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