




5-1-1974

The Economics of Planned Cities

Barbara J. Orsburn
Ursinus College

Adviser: Richard Bozorth

Follow this and additional works at: https://digitalcommons.ursinus.edu/bus_econ_hon

 Part of the [Environmental Studies Commons](#), [Regional Economics Commons](#), and the [Urban Studies and Planning Commons](#)

Click here to let us know how access to this document benefits you.

Recommended Citation

Orsburn, Barbara J., "The Economics of Planned Cities" (1974). *Business and Economics Honors Papers*. 28.
https://digitalcommons.ursinus.edu/bus_econ_hon/28

This Paper is brought to you for free and open access by the Student Research at Digital Commons @ Ursinus College. It has been accepted for inclusion in Business and Economics Honors Papers by an authorized administrator of Digital Commons @ Ursinus College. For more information, please contact aprock@ursinus.edu.

URSINUS COLLEGE LIBRARY
COLLEGEVILLE, PENNSYLVANIA 19326
6531 00185 6634

Ursinus College Library,
URSINUSIANA COLLECTION
Class 0 Box Econ.-3

MYRIN LIBRARY

The Economics of Planned Cities

Departmental Honors
Department of Economics
Ursinus College

*(Approval confirmed by
Dean Bozorth - 6/24/74.)*

Barbara J. Orsburn
✓ May 1, 1974

NOT TO BE TAKEN
FROM LIBRARY

Problems always seem to breed more problems. This is true in our cities. The crime rate, traffic congestion, air pollution, and all the other urban problems are influencing those who can, mostly the middle and upper classes, to flee from the cities. Each year more people move out of the cities, and the shapeless, unplanned suburbs grow. The once beautiful countryside surrounding our cities is rapidly being turned into a "splurb" of highways going nowhere, shopping centers, hamburger stands, and half-acre zoned residential areas.

One of the suggested solutions to urban sprawl is the planned community, the new towns and cities. New towns differ from subdivisions in that they have industry, a variety of income levels, a town center, and more controlled land use.¹ A planned new town has a minimum population of fifteen thousand for the smaller towns and fifty thousand for the larger ones.² They are classified according to their relationship to an established city. The classifications are in-city, peripheral, satellite (within commuting distance), and autonomous.³

Behind the planned cities is the assumption that if the physical environment is right, life for its people will be good. Planners are trying to make their developments so completely self-sustaining and well-arranged that everything a family needs will be within walking distance of its home or on a local bus line. They hope that some people will even give up cars or use them only for trips outside the city.⁴

Men were planning cities back in the days of the Greek City States. When prosperity and increased population put pressure on local food supplies, a new colony would be planted. Settlers were enticed to the new city by free grants of building land. Among the cities that grew from these colonial origins were Syracuse, Naples, Pompeii, Marseille, Cyrene, and Carthage.⁵

The first comprehensive town planner was Hippodamas of Miletus, born approximately 480 B.C. He reserved sites for public purposes, temples, government offices, theatres, stadiums, the gymnasium, and the agora. He planned dwellings along straight wide streets, laid-out in a gridiron pattern. One of the cities he planned about 450 B.C. was Piraeus, the port of Athens.⁶

After the Macedonian take-over there was a much stricter adherence to the Hippodamian tradition. Military order and method, and stricter control than formerly over land use and layout characterized geometrical Macedonian town plans. An example of this is Alexandria, planned by Dinocrates and built in 332 B.C.⁷

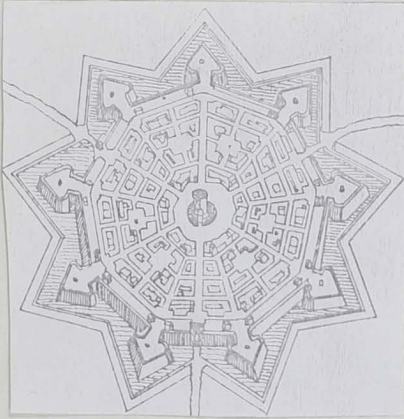
Roman colonial towns, unlike Rome itself which was spilling over with a population of one million by the second century A.D., were usually good examples of rectangular planning. Sanitary engineering was their main contribution to city planning. There were provisions to pipe water to houses, drain and sewer streets, and for public and private lavatories connected to waterborne sewerage systems.⁸

Medieval town planning began in earnest in Britain with the Normans. Twenty-one new towns were founded between 1066 and 1100, mostly as adjuncts to castles. By 1130, nineteen more were founded, mostly by clerical and lay landowners. The majority of these towns are laid-out in an orderly rectangular pattern. Many more towns appeared in the latter half of the thirteenth and first quarter of the fourteenth century. Edward I, alone, built one hundred towns to hold his newly acquired territory.⁹

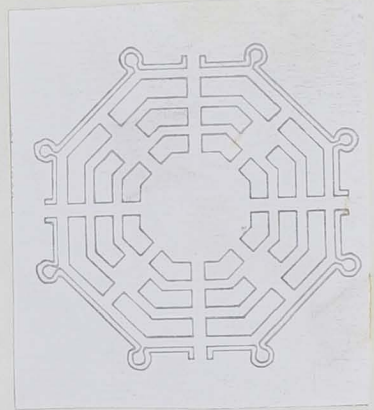
The golden age of town planning in Continental Europe was between 1220 and 1350. Germany alone built thirty-one towns during this period. Poland, Czechoslovakia, France, Switzerland, and the Low Countries were also rapidly building.¹⁰

During the Renaissance, Plato's The Republic and The Laws and Aristotle's Politics inspired philosophers to write of the good Christian life in the ideal city and devise layout plans for what they visualized as the ideal urban pattern. Sir Thomas More wrote Utopia, in 1516; Tommaso Campanella wrote City of the Sun in 1623 and John Valentin Andreae, Christianopolis in 1619.¹¹

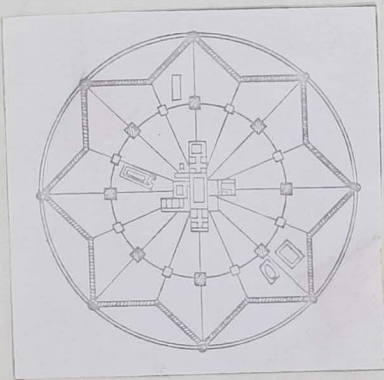
Radial-concentric plans were often used during the Renaissance for building towns. It enabled cannons, mounted in a central marketplace, to fire down every radial street. Many small fortress towns, such as Mariembourg, built in 1550, and Philippeville, built in 1555, both in the Namur province of Belgium, were built in this style. Palmanova, a small



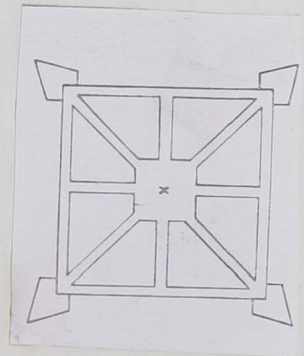
Palmanova: started 1593 as the classic radial-concentric plan; still inhabited



One of di Giorgio Martini's proposals for the ideal city, inflexibly octagonal, c. 1480



Sforzinda: Filarete's plan for an ideal city, c. 1565.



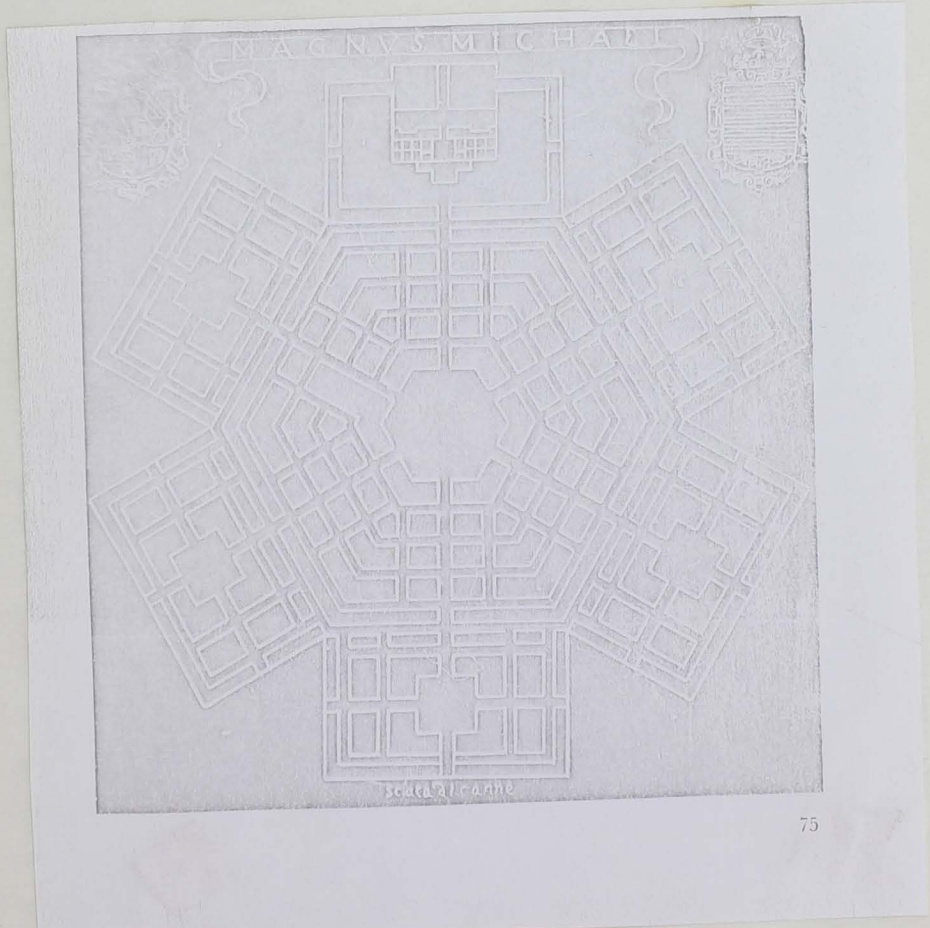
Girolamo Maggi's deagrammatic plan for an ideal fortress-town with roads giving unimpeded lines of fire or routes of movement to the walls

garrison satellite of Venice, built in 1593, was planned by Scamozzi in the radial-concentric plan. Coecorden (1597), a strong point in eastern Netherlands, Grammichele (1693) in Sicily, and Karloruhe (1715), the capital of Baden province in Germany were also in the same pattern.¹²

During the nineteenth century Utopian socialists began planning cities. Robert Owen wrote about model communities of eight hundred to twelve hundred inhabitants. He envisioned a series of squares surrounded by one thousand to fifteen hundred acres of agricultural land. Within each square were to be three public buildings. The central one was to contain a public kitchen, mess rooms, and all accommodations necessary to economical and comfortable cooking and eating. The other two contained schools, libraries, and lecture rooms. Accommodations around the the three sides of the square lodged married couples and infants. The fourth side was to be dormitories for children over three years of age. None of Owen's towns were founded in Britain, but three unsuccessful ones were in America. Owen did show that factories need not be located in large cities and better living and working conditions could yield greater pecuniary profits and more contented employees.¹³

Francois Fourier also felt social evils could be alleviated by a proper environment. He wanted to redistribute society into units of one thousand six hundred to one thousand eight hundred people representing every trade and profession needed

Grammichele



for self-sufficiency. Each unit was to be housed in a common dwelling around three sides of a planted square. Two towns were built following this pattern, Guise, France, and Brook Farm, Massachusetts.¹⁴

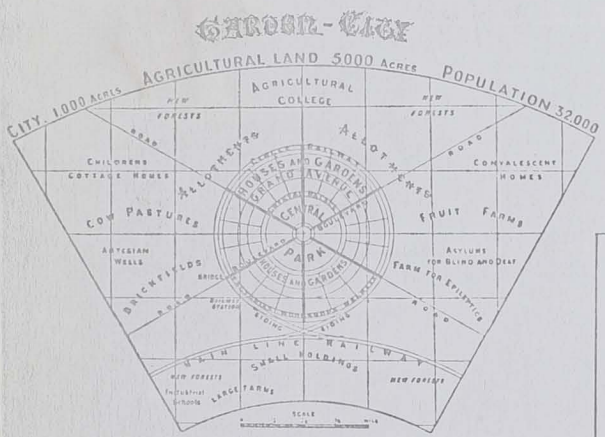
Many model villages were built during the nineteenth century, chiefly by industrialists for their employees. Most of these were less socially ambitious than the Utopian Socialists, but more successful. One of these is Bessbrook in Northern Ireland, established for linen mills by John Grubb Richardson.¹⁵

Apart from the Utopian communities started in this country, there was little city planning until the second half of the nineteenth century when Fredrick Law Olmsted began planning and building. In 1868 Emery Childs invited him to survey a sixteen hundred acre tract of land on a local railroad route outside Chicago for the Riverside Improvement Company. Childs thought the investment could be augmented by a comprehensive social and physical plan. Olmsted's social objectives were to encourage as much communal spirit as possible by providing maximum functional, attractive public space and by preventing private construction from intruding on public functions and forms. For this purpose Olmsted allotted seven hundred acres as open space. The town was subdivided into small village-like areas, each in proximity to public grounds.¹⁶

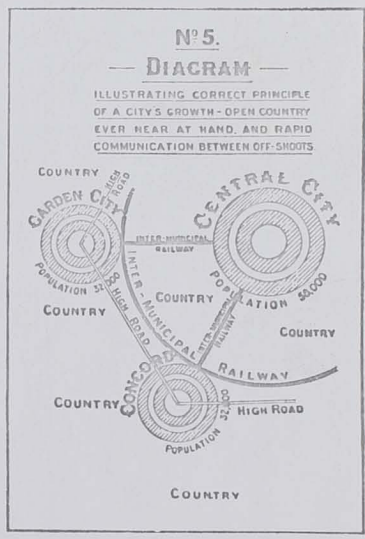
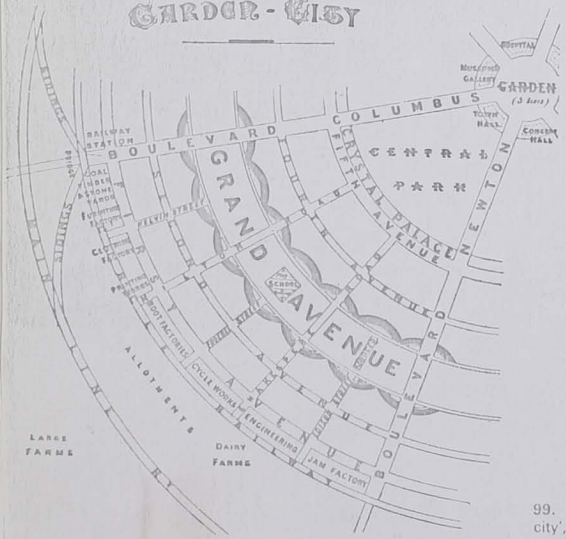
The planned city movement really traces its origins back to Ebenezer Howard in the late nineteenth century in Great Britain. His twenty years experience as a Parliamentary

shorthand writer acquainted him with the squalid state of British industrial cities. In 1898 Howard wrote Tomorrow: The Peaceful Path to Real Reform; this was released in 1902 under the title Garden Cities of Tomorrow. Howard realized that London was beginning to sprawl beyond its optimal size. To prevent further expansion, he suggested a greenbelt be set up around the city. This land would be restricted to agricultural and recreational uses. Further growth would have to take place in the garden cities, he proposed be built combining the best of town and country living. There would be the employment available that is found only in the city while people could enjoy the open space, provided by the greenbelt, normally found only in the country. The garden cities would circle London and each be surrounded by greenbelt areas to assure against encroachment of other developments or overexpansion of the city itself.¹⁷

In 1903 Howard founded a public corporation, First Garden City Limited. Capital was raised by the sale of stock to purchase a thirty-nine hundred acre (later increased to forty-five hundred seventy-four acres) site at Letchworth, Hertfordshire, about thirty-five miles north of London, outside his proposed greenbelt. Raymond Unwin and Barry Parker were the architects commissioned to build this, the first garden city, a self-sustaining residential, commercial, and industrial community with a maximum population of thirty thousand. Development was somewhat slow but successful from a social and financial standpoint, having a total population



WARD AND CENTRE
GARDEN-CITY



99. Howard's diagrammatic 'garden city', 1898

today of twenty-eight thousand five hundred (1971 figures).¹⁸ Letchworth successfully demonstrated that Howard's methods to deter further sprawl of London were feasible. It was the inspiration for the cluster of garden cities built around London later in the century.¹⁹

Letchworth, like Howard's second city, Welwyn, built in 1920, was worked out in zones. Public buildings and places of entertainment were placed centrally with shops intermediately located and factories on the edge with the railway. Houses of different sizes, all with gardens, were located within easy reach of factories, shops, schools, cultural centers, and open country. In the heart of the town was an inner greenbelt or ring park four hundred twenty feet wide containing the main schools with large playgrounds and churches. The density within the town was planned to be approximately thirty per acre and two per five acres in the country belt.²⁰

Americans again became interested in planned cities in 1906 when the Garden City Association of America was formed under the influence of Howard and a group of American churchmen and financiers. They themselves built no model towns, but advised industrialists planning new cities. The financial panic of 1907 stopped all the plans in which the Association was involved.

During the 1920's Americans toyed with the idea of planned communities. Mrs. T. J. Emery sponsored Mariemont



101. Welwyn Garden City: master plan by Louis de Soissons, 1924

on a three hundred sixty-five acre site outside Cincinnati. John Nolan planned the community to have a population of five thousand, later expanded to ten thousand. Some of the highlights of the town were its civic center and its radiating streets and boulevards. The most well planned of the model cities of this period was Palos Verdes Estates, designed by the Olmsted brothers as a garden suburb twenty miles up the coast from Los Angeles. One-quarter of the land was reserved as parks, playgrounds, sea shore, golf course, bridle paths, and other recreational facilities. Palos Verdes Estates, like Mariemont, had one fatal flaw; because of the cost, they turned into only upper-middle class communities.²¹

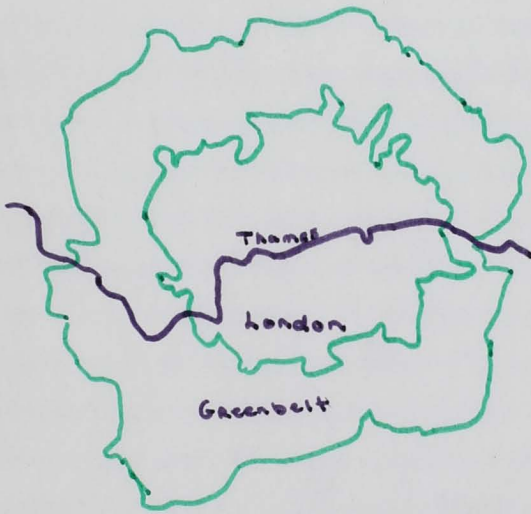
Radburn, New Jersey, built in 1929, fifteen minutes from Manhattan, is often used as a model for modern American new towns. Clarence S. Stein planned the city for Alexander M. Bing's City Housing Corporation. The city was laid-out in super blocks of thirty to fifty acres. Houses were planned in clusters facing an inner park. After the Crash, the company ran out of money with only two of the blocks planned for twenty-five thousand completed, only about one-tenth of the proposed city. Because of their lack of funds, they lost their option to buy the surrounding farm land. Radburn has become engulfed by Fairlawn, New Jersey, because it did not have the necessary buffer zones or greenbelts.²²

Between 1935 and 1938, under Roosevelt's economic recovery program three towns were built by the Resettlement Administration under Tugwell. These three towns were Greenbelt,

Maryland, near Washington, Greendale outside Milwaukee, and Greenhills near Cincinnati. One of the chief reasons for building these towns was to provide jobs for relief labor.²³ Each of these three contained about three thousand families in government rent-subsidized units. The chief fault with the communities was their lack of industry. Further attempts of government sponsored communities were blocked when the agency was closed in June of 1938.

During the 1940's planned communities such as David D. Bomammon's San Lorenzo Village outside San Francisco, begun in 1944, were turned into wartime housing projects. Because of the building materials shortage and subsequent housing shortage these towns could not be built to their planners original specifications. While they helped fill the housing shortage, they did little to advance the cause of planned communities.²⁴

The first large scale new community planning was begun in Post-World War II Great Britain. In 1944 Sir Patrick Abercrombe influenced by Howard's work proposed a five mile deep greenbelt be enforced around London. In the Town and Country Act of 1947 this plan was put into action. It restricted all building within this eight hundred forty square mile zone without permission. This was primarily done for containing London.²⁵ Under this program eight new towns were built outside the greenbelt before 1950, with an average population of sixty thousand each. The incentives and tax breaks offered proved successful in getting industry to



relocate in the greenbelt cities. The current problem is to limit the growth in greenbelt cities.²⁶ At present they are planning a ring of thirty even larger towns about eighty miles outside London.

Under the Town and Country Act, the garden cities are set up as quasi-independent development corporations but are financed wholly by the Exchequer. They have a great advantage over their American counterparts in that they are financed by a sixty year low interest loan from the government as opposed to typical twenty-five year American mortgages.²⁷

In 1948 Stockholm devised a comprehensive regional plan of forty-six satellite communities. This plan was fully blue printed by 1960; since then, no one has been allowed to build in conflict with the plan. Stockholm purchased much of the surrounding land to ensure the suburban development takes place according to the master plan. Each of the new towns has a population of approximately one hundred thousand and is linked with each other and Stockholm by a railbased mass transportation system. Each town is separated by planned open spaces.

The European city most admired by new community planners is Tapiola Garden City in Finland.²⁸ Tapiola is built on six hundred seventy acres in an evergreen forest six miles outside Helsinki. The city was built by a private non-profit making organization, Asuntosäätiö, and designed by a team of three Finnish architects. The town consists of three independent neighborhoods grouped around the town center. It, like most

of the European new towns, has a much higher density than their American counterparts. European planners set the minimum city population at seventy-five thousand to support the kind of city facilities residents want. The American attitudes toward high density housing are a problem. The separate dwellings that Americans feel they need for prestige are rarely found in Europe's new town's, though ninety percent of Tapiola's housing is private owned.²⁹

Currently the greenbelt around London is being modified. The Ministry of Housing and Development in their studies of southeast England foresees one million more residents in London and almost that number more outside London in the greenbelt towns by 1981. Something has to give.³⁰ Because of this, they are reevaluating their greenbelts. Most of it is being used only for a negative purpose, containment of London. They are now swinging back to a more positive purpose for the greenbelt, recreation and landscape. They are beginning to cut down the size of the belt and make the land left more accessible to the city dwellers. Studies have shown that people do not need much of a separation between towns; the fact that there is a separation is enough.³¹

In the United States the example of Post-World War II planning most often cited is Levittown in Nassau County. It was started in 1947, and by 1950 it contained fifty-one thousand homes; fifteen thousand of which were identical. Actually Levittown is an example of the better planning of this period. Most of the developments contained between one

hundred and two hundred home tracts and a small shopping center. They made no provision for schools, parks, or churches. Levittown at least tried to provide some of these amenities.³²

There is a great need in this country presently to find a better and more economically feasible means of housing the expanding population than urban sprawl. The Regional Planning Association has calculated that if the New York metropolitan area continues to grow at its present density until 1985, it will cost taxpayers about nineteen thousand dollars per new household to build streets, schools, and pipelines to let each added family sprawl all over the place.³³ On a larger scale, at its present rate of growth, the United States will swell by another eighty to one hundred million by the end of the century. If present patterns continue, eighty-five percent of this growth will be concentrated in the twelve largest urban areas. At today's prices, the nation will spend between two and three trillion dollars to provide the new inhabitants with homes, schools, roads, and factories.³⁴

One of the chief differences between most European new towns and American ones has been their financing. European new towns have been primarily government financed while their American counterparts are privately financed by profit seeking groups. Recently the United States government has been making some attempts to aid the development of planned communities.

In 1965 Congress enacted a law authorizing loans for private land development. In 1966 Congress adopted and in 1968 and 1970 broaden legislation giving the government the

power to guarantee loans up to fifty million dollars to private developers building new towns. This power was first used in 1970 to guarantee a twenty-one million dollar loan to Jonathan, a new town being built twenty miles southwest of Minneapolis.³⁵

The most sweeping piece of legislation is the Housing Act of 1970. It authorized, subject to later appropriation, some nine hundred million dollars in federal loan guarantees, direct loans, and grants for land acquisition and development, installation of sewer, water, and other facilities, and for social, economic, and land-use planning. These loans, grants and guarantees are to be available to private, state, and local development agencies. The most progressive section empowers the Department of Housing and Urban Development to create new towns itself on federally owned land.³⁶

James W. Rouse, president of The Rouse Company, the mortgage banking and real estate development company creating Columbia in the Baltimore-Washington corridor spoke for the entire community building industry when he stated his four main goals, though his application of these goals may differ from the rest of the industry. He felt that Columbia should be a real city, not a better suburb. Business and industry are necessary to establish a sound economic base. Housing is needed to match every salary provided by business; this means housing for the janitor as well as the corporation president. Schools, churches, libraries, colleges, department

stores, and all the other institutions necessary to form a city must be included in the plans, also.³⁷

Another objective is respect of the land. The land must be preserved and the community built on it, not leveled as many subdivisions do, cutting all the trees and covering over all the stream beds. Open space must be kept for use as parks and recreation areas. In Columbia, Rouse saved three thousand two hundred acres of the original fifteen thousand for this purpose, three thousand acres of this is forest and woods. The three major stream valleys were preserved and five small lakes built.³⁸

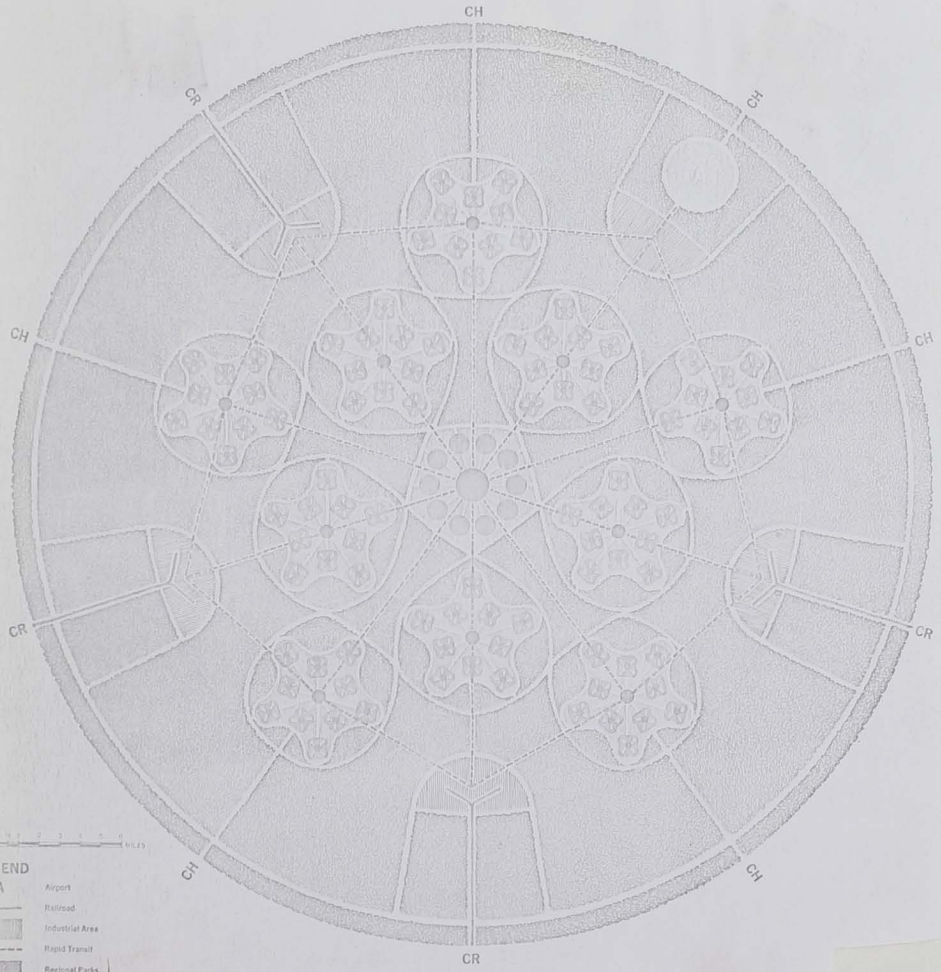
The third goal is to provide the best possible environment for people. Rouse attempted a new technique to achieve this goal. A planning committee was organized. Members of the group had expertise in the fields of government, family life, recreation, sociology, economics, education, health, psychology, housing, transportation, and communications. The group met for two days and one night twice monthly for about six months. They discussed the optimal conditions for living, that is, as if they were starting with no financial or institutional restraints. These dialogues among urban designers and behavioral scientists did much to aid Columbia's planners.³⁹

The last goal was to make a profit for the developer. Community developers believe that the profit motive can be coupled with an interest in civic affairs.⁴⁰ One of the greatest achievements of the new cities may be to prove that better planning is economically feasible. Planners such as

Rouse and Robert Simon, the developer of Reston, Virginia, feel that the consumer will be willing to pay a bit more for a better environment in which to live.⁴¹

The modern American planned city usually follows in at least a modified, but much smaller form, of Victor Gruen's proposed metropolitan area. He proposes a metropolitan area with a population of three million three hundred thousand, about the median size for cities in the United States. His plan is basically cellular, with a metrocore of five hundred thousand surrounded by ten satellite cities of two hundred eighty thousand people each. Within each city is a smaller system composed of ten satellite towns with populations of twenty-five thousand and a city center of thirty thousand. Each town is broken down into four communities with five thousand four hundred people and a town center with three thousand four hundred. Each community is composed of five neighborhoods of nine hundred people and a community center with the same population.⁴²

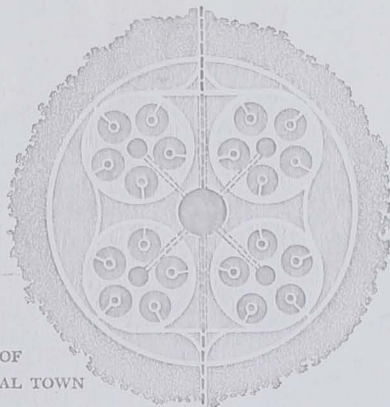
Gruen's proposed city is basically a modernized adaptation of Howard's plan for London, with the size of the cellular elements and density of population more in line with what he considers to be economically feasible today.⁴³ All his cities are to contain open space within them and between neighboring cities. Each city is proposed to cover approximately one hundred thirty-eight thousand six hundred forty acres and the metrocenter's two hundred sixty-five thousand three hundred forty-five acres for a total of four hundred forty-four thousand four hundred eighty-five acres or six hundred



THE METROPOLIS OF TOMORROW

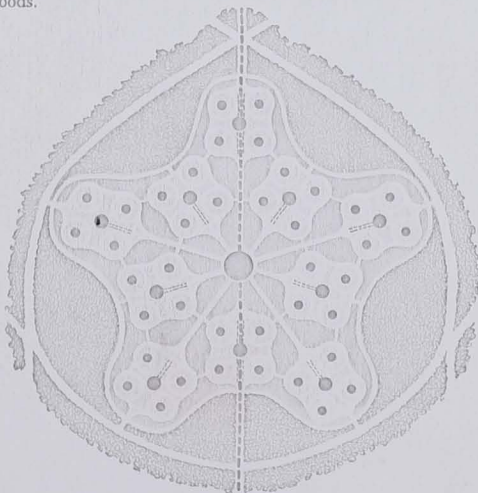
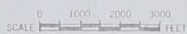
Ten cities surround metro core consisting of ten core frame units and metro center.

- LEGEND**
- A Airport
 - Railroad
 - Industrial Area
 - Rapid Transit
 - Regional Parks
 - City Recreation
 - Local Recreation
 - Open Space
 - Urban Centers
 - Connections with National Railroad Network
 - CR Connections with National Highway Network
 - CH



DETAIL OF
A TYPICAL TOWN

It consists of a town center around which four communities are placed. Each community consists of one community center and five neighborhoods.



DETAIL OF
A TYPICAL CITY

It consists of a city center and ten towns, each with its own town center.



ninety-four and a half square miles. the density Gruen proposed is about four thousand seven hundred fifty people per square mile.⁴⁴

The two planned communities regarded as America's best are Columbia, Maryland, and Reston, Virginia. Reston is located on eleven and a half square miles outside Washington D.C., in Fairfax County. Reston uses the cluster plan used by most new towns, where houses or town houses are grouped close together. Instead of having half-acre private yards, the land is pooled, leaving more for community recreational facilities. Seventy percent of the housing in Reston is town house, fifteen percent is single-family homes, and the remaining fifteen percent is high-rise apartment. One-seventh of the land was set aside for industrial development. Robert Simon, a New York real estate investor, began Reston in 1963 when he purchased thirteen million dollars worth of land. The biggest investor in the new town is Gulf Oil. In 1967 Reston hit a slump caused by tight money and the town not having enough financial backing to see it through its first rough years.⁴⁵ Gulf stepped in and tookover the project when it reached a forty-five million dollar debt in 1966.

Gulf put in Robert H. Ryan, a real estate consultant from Pittsburgh, as president and Simon was made chairman of the board to kick him up stairs. Ryan's first statement that henceforth Reston would "...listen to the market" frightened many of the residents.⁴⁶ They became even more frightened when Simon was fired along with the architectural firm,

Conklin and Rossant, who had received so much acclaim for their creative designs. Ryan's statement was later tempered by Saunder's, another Gulf-Reston employee. He was referring to Reston when he said, "Maybe we can lead the market a little less."⁴⁷ All the new innovations in Reston were costing the residents more. All the special things about Reston were adding to the costs as much as three thousand dollars per home.⁴⁸ Ryan has changed the orientation of Reston only slightly; there is a slight decline in its sponsorship of social activities and less construction of community facilities.⁴⁹ Ryan has also managed to get conventional institutions to finance home buying with only a ten percent downpayment. Since Gulf takeover Reston, sales have picked up greatly.

Columbia has never had the problem with financing that Reston and so many other new towns have had. The chief reason for this is James W. Rouse, the developer. Rouse is a mortgage banker as well as a real estate developer. His projects have included the malls in Cherry Hill, New Jersey, and Plymouth Meeting, Pennsylvania. Through mortgage banking and his own developments Rouse worked with Connecticut General Life Insurance Company. Rouse was regarded so highly by them that Connecticut General was willing to initially invest eighteen million dollars in a project where the estimated costs for land and buildings was two billion dollars.⁵⁰ In January of 1963 they agreed in writing to create a joint land-development company, Howard Research and Development Company (HRD) with Community Research and Development Company, the subsidiary of Rouse's that was planning

Columbia. In Return for Connecticut General's eighteen million dollar investment they would receive fifty percent of the profits and the right to name three of the five directors of HRD with Rouse naming the other two. Later they extended their investment to twenty-three and a half million dollars.⁵¹

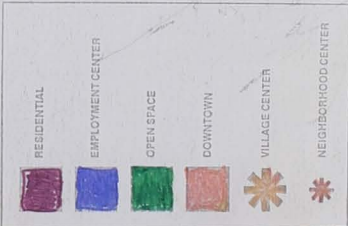
In 1962 Rouse had begun acquiring the options to lands in Howard County, Maryland, a rural, but fast developing section between Baltimore and Washington. The lands were bought through six dummy corporations. The first tract was acquired for a price of just under six hundred dollars per acre for a total of six hundred ten thousand for the entirety. The price was high since the going price for farmland in the county was between four hundred dollars and five hundred dollars per acre, but the deposit was low, eighteen thousand dollars. They were given six months to close the deal and then were required to pay another two hundred thousand dollars when the land changed hands in November. Ten percent of the balance plus five percent interest was due annually starting three years after the transfer.⁵²

On October 29, 1963, Rouse went to the Howard County Commissioners in Ellicot City to reveal the basics of his plans for the twenty-two square miles, approximately one-tenth of the county, that he had acquired. He promised to return in a year with a specific plan. If they liked it better than the prospect of scattered, sprawling growth under half-acre zoning, they could approve it. If not, they could reject it and deny the necessary zoning changes.

At this stage of the planning, Rouse's fourteen-member committee of social science experts was formed. Their generalities about the most beneficial environment actually had some practical applications. Columbia was oriented around education at their suggestion. In each neighborhood is an elementary school, in the villages are secondary schools and the town itself has the colleges. This also fulfilled their suggestion of smaller schools, providing more leadership opportunities for students. The minibus system of transportation also came from a suggestion from this committee. Rouse was pleased enough with the committee results to consider it well worth its cost of one hundred thousand dollars.⁵³

Within the eighteen thousand acre tract, stretching nine miles east to west and five miles north to south was planned a city of one hundred twenty thousand people. The town was broken into seven villages with between three thousand and five thousand families. Each village is planned to have a village center with the high school, middle school, library, auditorium, churches, medical clinic, supermarket, gas stations, and stores. Within each village are four to six neighborhoods with nine hundred to twelve hundred families each. Each neighborhood has its own elementary school, day-care center, small store, meeting room, swimming pool, park, and playground. The neighborhood is kept on a scale small enough that each elementary pupil can walk to school. Downtown are the mall with its department stores and specialty shops, movies, theatres, outdoor amphitheatre, offices,

A Schematic view of Columbia



Columbia's development follows a long range general plan drawn before construction began. This schematic map illustrates the basic relationships between the major components of the new city at full development.

hotels, hospital, main library, park, and lake. Near the downtown area three colleges, Howard County Community College, Dag Hammarskjold College, and a branch of Antioch College, are located.

There are many advantages to the smaller and smaller subdivisions in Columbia. One of the most important is its psychological value to the residents. Our cities are out of scale; they are dwarfing their inhabitants. The neighborhood and village are reducing the city to a scale with which people can cope.⁵⁴ Another advantage is that neighborhoods allowed not just for pooled land for recreation, but also for pooled community resources. The school and the community can share the same auditorium, and the churches can all share many of the same facilities.

The city is planned for three to four houses per acre in typical areas of individual dwellings and ten units per acre for town houses. Apartments will have a density of fifteen to twenty units per acre. Housing will occupy fifty-four percent of the city with open space and employment centers taking twenty-three percent each.⁵⁵

In an attempt to sell Columbia to Howard County's residents, Rouse and his top aid made nearly six hundred speeches within the county alone extolling the virtues of their town. They convincingly explained that a well planned community would be better than the half-acre zoned suburb that was about to take over the county. The county's population in 1965 was only forty-eight thousand, but the state

planners had predicted a population of two hundred thousand soon, even without Columbia. The location of the county, between Baltimore and Washington assured its growth. Washington is the fastest growing metropolitan area in the country, and Baltimore is ranked ninth.⁵⁶ In answer to old county residents' fear that the cost of all the innovations would raise their taxes, Rouse promised a "tax fence" to protect them from having to share the burden of Columbia's schools, roads, water, sewer and other community facilities.⁵⁷

November 11, 1964, Rouse returned to the commissioners in Ellicott City with an eight foot by eight foot model. After listening to the detailed planners, Miller, chairman of the county commissioners said, "Howard County is going to be built over whether some people like it or don't like it. The plan should cause the least expense in years to come."⁵⁸

There were many disagreements with the commissioners that had to be ironed out and a few that could not. Rouse wanted to create Columbia as a separate tax district. As a tax district they would be able to float tax-free bonds, greatly reducing the cost of borrowing money for community facilities. The commissioners warned that they would refuse to rezone if the separate tax district was to remain part of the plan. They also stated their disapproval to row-house development and questioned the idea of cluster zoning. In any case they said they would not rezone the entire site for a city at one time.⁵⁹

These apparent rebuffs by the commissioners helped create sympathy for the new town plan. For a month the Howard County Times printed a straw ballot asking whether or not Columbia should be allowed to proceed. The vote turned out eighty-five percent in favor of Columbia.⁵⁹

Finally Rouse and the Howard County Commissioners came to terms on what the new zoning ordinance should be. There was to be a section applying only to new towns. A new town was to have at least twenty-five thousand acres and all land must be contiguous. The new section requires at least twenty percent of the land be kept as permanent open space. At least ten percent of the land must be used for low-density and twenty-five percent medium-density private home development. No more than ten percent of the land can be used for apartments. Ten percent of the land could be zoned for commercial facilities and twenty percent for industries.⁶⁰ The row-house question was solved by allowing attached dwellings in apartment zoned areas with the maximum of ten per row. In mid-July the commissioners voted to rezone the entire area.⁶¹

Construction began in June of 1966, three months behind Rouse's demand schedule. The planning and development had consumed three years and cost an estimated three million dollars plus the twenty-five and a half million dollars for the land. The first home went on sale July 1967, instead of April. Even with this somewhat slow start Columbia picked up rapidly. By the end of 1970, Columbia's fourth year of development, goals set for the sixth year were already being surpassed.⁶²

Rouse chose not to follow Robert Simon's example of progressive architecture in Reston. Rouse himself said, "We will have been arrogant if Columbia wins high applause in the architectural magazines. We are not out to build a Utopia. Our major principle is a realistic appraisal of what people really want."⁶³ Rouse hoped that not following Reston's lead in architectural design might insure that Columbia also would not follow its lead in the financial field. If buyers wanted ranchers and split-levels Columbia would provide them.

To prevent building that would be an eye sore or in Rouse's opinion unappealing to the buying public, designs must be approved by the Architectural Committee. Under the terms that Rouse sells land, the board must approve all construction plans in advance. The committee, under the chairmanship of Hoppenfeld, Rouse's chief designer, has the power to require changes or even veto a building completely.

Columbia, like Reston and most new towns, is unincorporated. Howard County provides fire and police protection and educational facilities for Columbia. The planners put in the sewers and roads. The Columbia Park and Recreation Association, and similar organizations in other new towns, is a quasi-governmental private nonprofit corporation. It hires a full-time manager and professional staff to maintain and run community buildings, pools, lakes, pathways, and parks. It is responsible for the supervision of the minibus transportation system, child-care and day-care programs, tennis and golf clubs, arts and crafts classes, and

boating on the lakes. It cares for the street trees and landscaping on Association land. The Association is empowered to tax property owners up to seventy-five cents per year per one hundred dollars of assessed value. Apartment dwellers pay these fees as a part of their rent.

The Association is also the political voice of the people, though a weak one. One representative per four thousand, approximately, families is elected to serve on it. There are no other elected officials except for the Association representatives. The real control of the town is in the hands of its planners and builders, but will not always be that way. Housse plans to give control to the residents when the town is ten or eleven years old, by that time Columbia should be completed.⁶⁴

The pooled resources in Columbia have done much to benefit its residents. Four Protestant denominations joined with Catholics and Jews to form Columbia's Religious Facilities Corporation. They share office space and educational and recreational facilities. With the money they save they can invest in community projects, such as Interfaith Housing Corporation. In May of 1969 ground was broken for the first hundred of three hundred apartment and rental town houses for lower-middle income families. The project is being built under the Federal Housing Administration section 221d3 program. The government loaned one hundred percent of the project cost on a forty-year mortgage at interest rates so low that the taxpayer is, in effect, subsidizing the loan.

Columbia Association Revenues

Thousands
of \$

2000

1750

1500

1250

1000

750

500

250

Fiscal

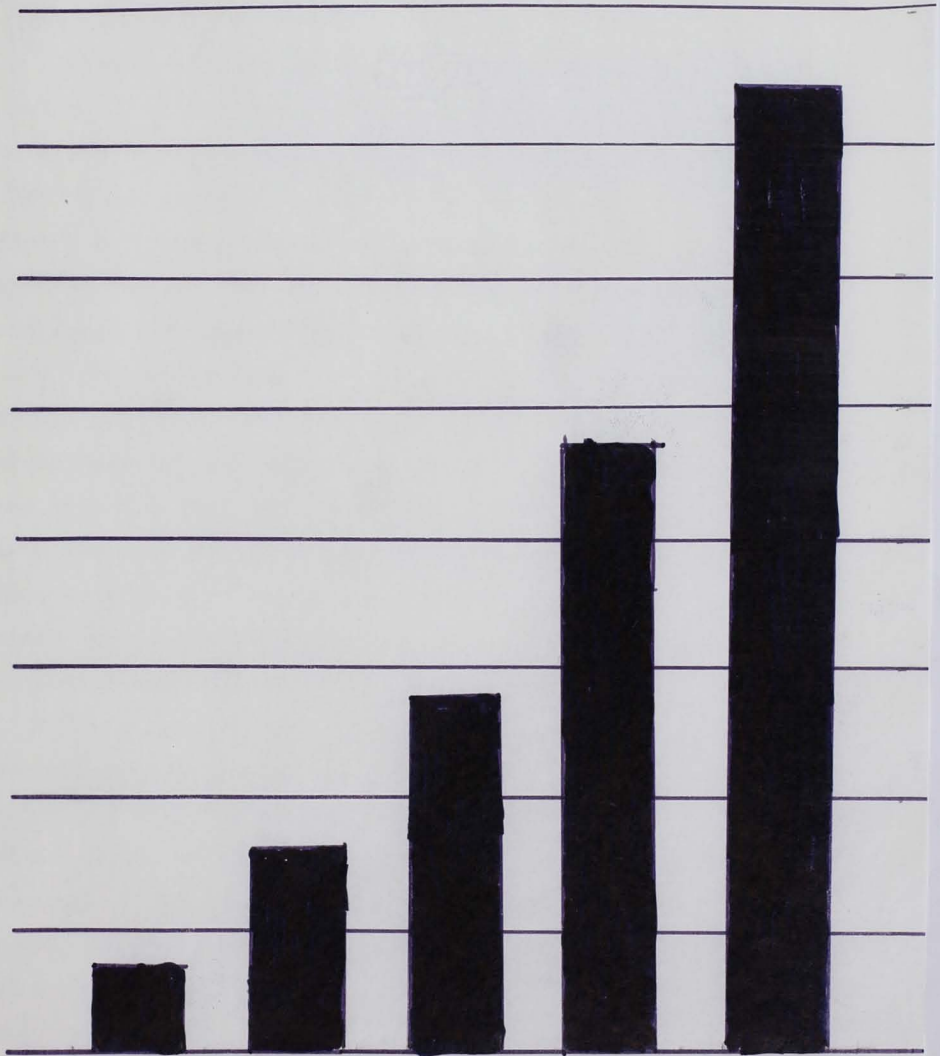
1968

1969

1970

1971

1972



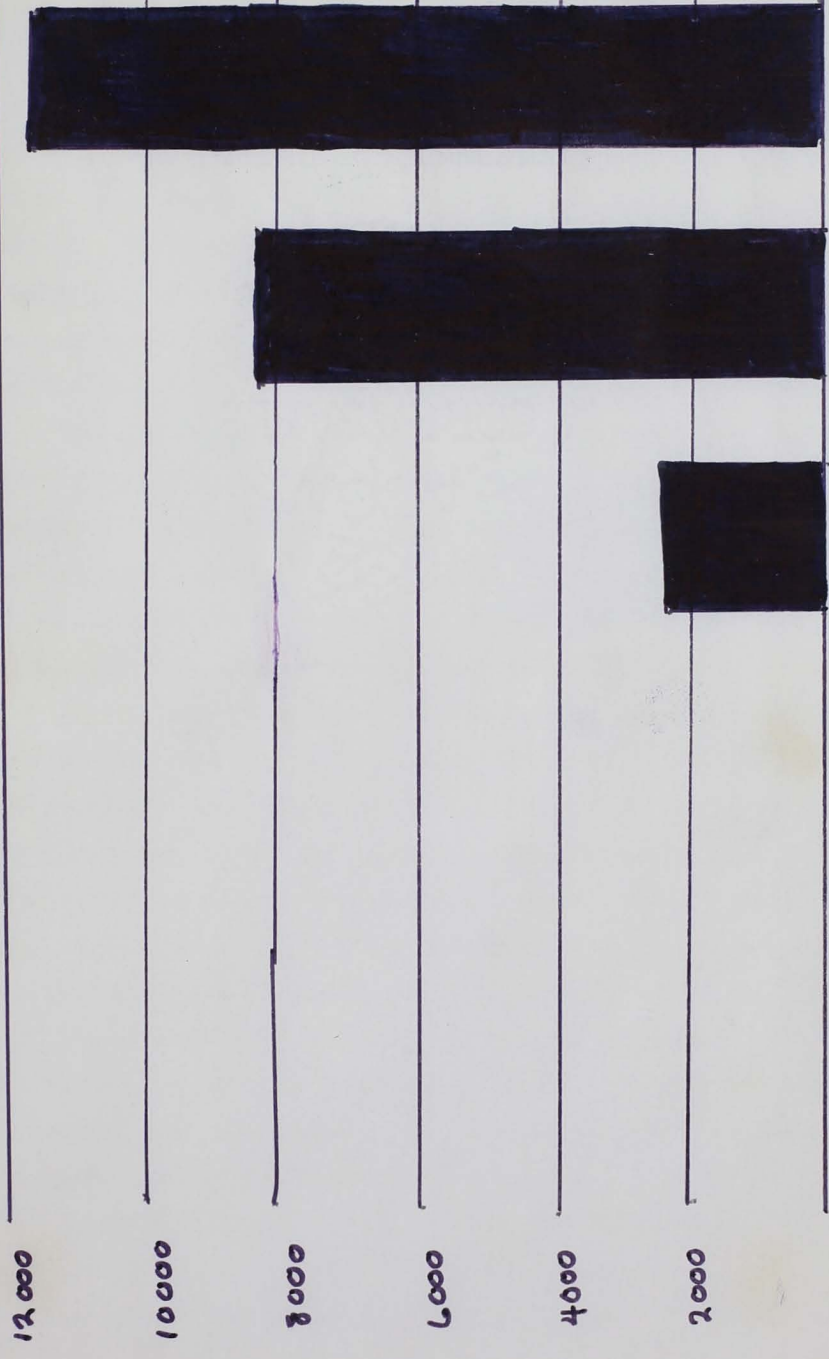
Because of these lower cost of building and lack of profit motivation, rents run about twenty-five percent lower than comparable costs.⁶⁵

Pooled resources have also made possible the health care system. Each village clinic is connected with the one hundred eighty bed branch of Johns Hopkins in downtown Columbia. They have a voluntary prepaid group practice health-care plan financed by Connecticut General where the residents pay a flat monthly rate of fourteen dollars and fifty cents per individual and forty-three dollars and fifty cents per family of four or more. Subscribers must pay a two dollar fee for each prescription, clinic visit, physical examination, visit to a psychiatrist, or medical treatment. A doctor's house call is five dollars and maternity care one hundred dollars per pregnancy.⁶⁶ Surgery and hospitalization are almost totally covered by the flat monthly fee. The real emphasis is on preventive medicine. The idea behind this is that it costs no more to build a healthy community than to treat a sick one.⁶⁷

The school systems in Columbia has cost more than Rouse had planned, since he wound up donating most of the school sites to the county instead of selling them to the county school board. The board was going to buy the land at Rouse's cost until they discovered that Reston had donated its school sites. When the board learned that Rouse was counting the school playgrounds as part of the permanent open space, they had something to hold over the city's head. They issued an edict that school playgrounds could only be used as community

Medical Plan Members

Medical Plan
Members



Fiscal

1968

1969

1970

1971

1972

open space with the approval of the school superintendent. The effect of this would be the subtraction of so much open space that Columbia would be below the twenty percent zoning minimum. To compromise Rouse donated all land earmarked for playgrounds at a cost of one and seven tenths million dollars, and the county school board agreed to pay for the land needed for buildings, roads, and parking lots.⁶⁸

The school system set up in Columbia is basically a progressive one. The elementary schools run from kindergarden through fifth grade. They are all open-class room, ungraded, and use team teaching. The intermediate schools holding sixth through eighth grade and the high schools are small in size to provide more leadership opportunities for students.

As with all large plans, Columbia's has had a few faults. When the gas shortage hit, Columbia had half the number of gas stations needed for its stage of development. The problem was compounded by the fact that gas was rationed to stations on 1972 allocations, when the population was nineteen thousand, as compared to the present population of thirty thousand. The result was long lines at the stations.⁶⁹

The minibus system also has been a disappointment. It has not been used as much by residents as was hoped, resulting in deficits for the company. As a result services have been cut back, but not discontinued yet.

Columbia has been fortunate in attracting industry. Economist Robert Gladstone, a Washington consultant, has estimated that nine thousand "basic" or primary jobs must be

Public School Enrollment in Columbia

6.10
600000
Columbia

Students

6000

5000

4000

3000

2000

1000

Fall



1972

1971

1970

1969

1968

THE EVENING SUN

Baltimore, Wednesday, February 20, 1974

Sole 4 Service Stations In Columbia
Result In Long Auto Lines For Gas



Sunpapers Photo—Lloyd Pearson

Familiar sight- Cars line up for gasoline at the Exxon station in Columbia, one of only four in the new city.

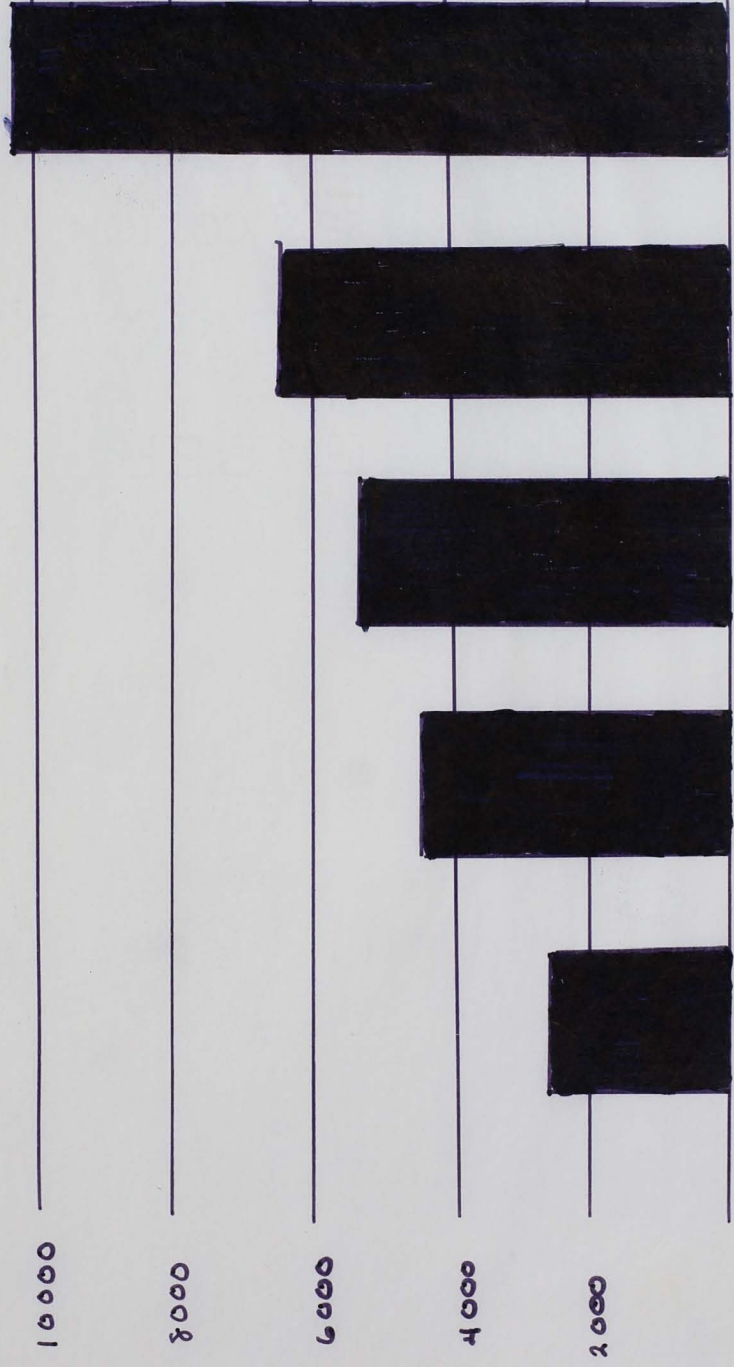
imported to support a new town of one hundred thousand, such as Columbia. These "basic" jobs are ones in a company whose goods or services are mainly sold beyond the boundaries of the town. Gladstone further estimated that the nine thousand basic jobs would create a need for nineteen thousand six hundred "dependent" or secondary jobs in construction, wholesale and retail trade, local government, and private service enterprises.⁷⁰ The new General Electric appliance park will more than fulfill the nine thousand job quota. Within a decade it will be employing twelve thousand five hundred workers.

Columbia has been financially beneficial to Howard County. It has increased and strengthened the county's tax base because of its balanced growth of industry along with housing. Columbia's thirty thousand population is about one-third of the county total and pays about forty percent of the county taxes. Columbia has planned ways to cut costs that could raise taxes. An example of this is the elimination of buses for elementary schools since all homes are within walking distance of neighborhood schools. By 1980, the savings from this are estimated to be one million dollars annually.⁷¹

The financing behind Columbia is in itself a major accomplishment. In December 1965, Rouse put together a fifty million dollar package of loans to HRD to repay Connecticut General's original loans and his own CRD's investment in services. The new financial backers are Connecticut

Employment Not Including Construction

Number
of Jobs



Fiscal

1968

1969

1970

1971

1972

Scaphal P. S. Com. 089

Retail and Commercial Development

additions to existing - secondary unit

Thousands
Square
Feet

Square Feet in Operation

1500

1250

1000

700

500

250



Fiscal

1968

1969

1970

1971

1972



Industrial Land Sales

Cumulative

Acres

In Addition to 1100 acres sale to General Electric

400

300

200

100

Fiscal



1968

1969

1970

1971

1972

Growth of Howard County's Assessable Base

Millions
of \$

600

500

400

300

200

100

Fiscal

1968

1969

1970

1971

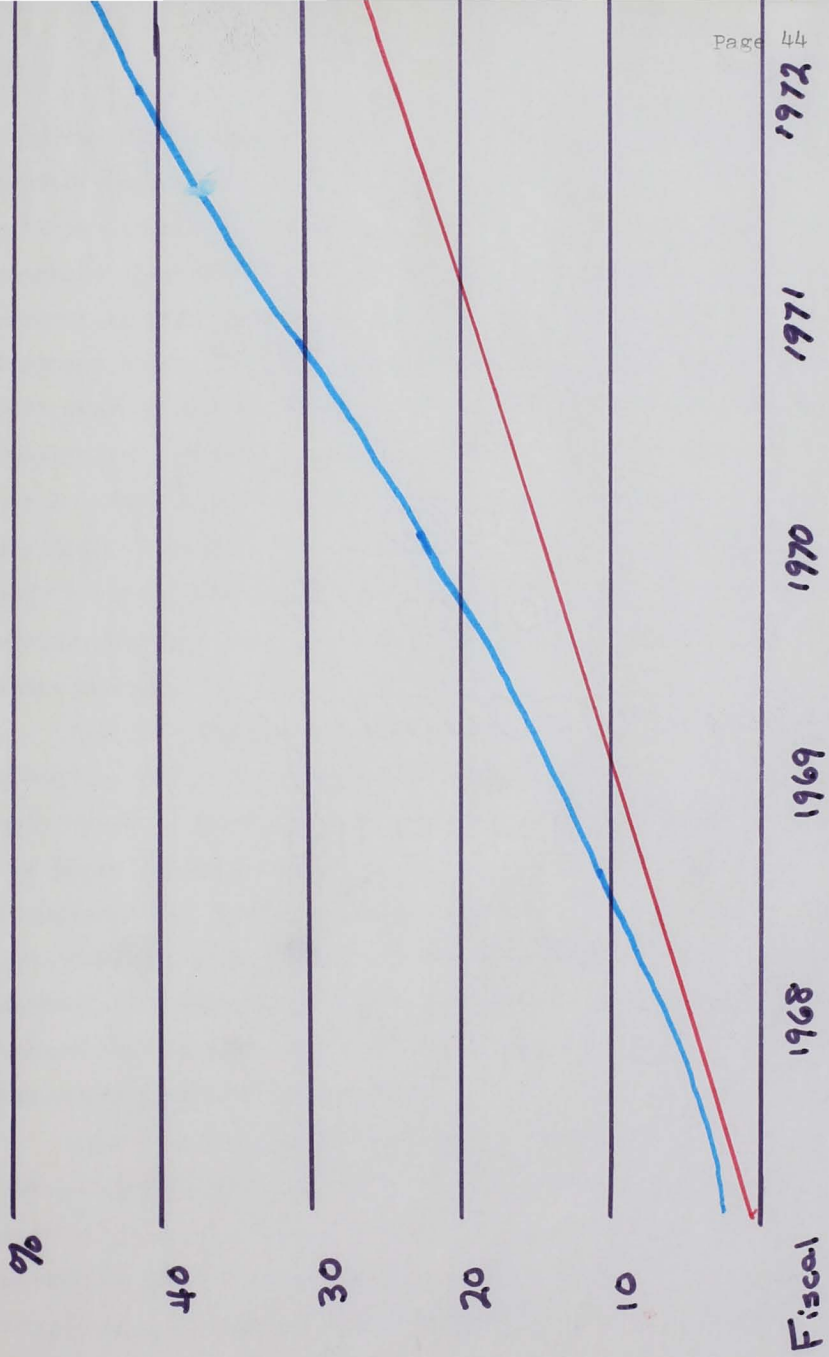
1972

■ - Balance of Howard County
■ - Columbia and G.E.



The Impact of Columbia

segment & cement out
of



1972



1971

1970

1969

1968

Fiscal

-  Columbia and G.E. as a percent of Howard County's tax base
-  Columbia as a percent of Howard County's population

General, Chase Manhattan Bank, and Teachers Insurance and Annuity Association. Connecticut General loaned twenty-five million dollars; fifteen million dollars at six and a half percent interest and ten million dollars at eight and a half percent as opposed to their old loan at eight percent interest. Teachers loaned fifteen million dollars at six and a half percent interest and received a fifteen year option right to buy five percent of the common stock of HRD for three million dollars. Chase Manhattan loaned ten million dollars at eight and a half percent. The justification for their higher interest rate was that they were forbidden by law to buy stock. The average interest rate for the entire loan was seven and three-tenth percent.⁷¹

By 1966 Columbia was costing HRD three million dollars annually, mostly interest. Neither Rouse's CRD nor his mortgage company, James W. Rouse and Company (later merged to form The Rouse Company) had any direct liability for the fifty million dollar loan. In order to finance the nineteen million dollar land expansion necessary to accommodate the three hundred fifty million dollar General Electric appliance park, Connecticut General increased their loan, leaving HRD with a seventy-six million dollar debt.⁷²

At a town meeting in 1969, Rouse told Columbia's residents, "We haven't repaid a penny of it yet. Before the debt starts declining, it will go up to eighty million dollars."⁷³ In the spring of 1970 Rouse arranged a thirty million dollar loan with Connecticut General and Manhattan's Morgan Guaranty and

Manufacturer's Hanover banks, bringing the total indebtedness to well over his predicted eighty million dollar mark.

The huge indebtedness did nothing to lessen Rouse's opinion of Columbia's future revenues. Rouse was always cautious about predicting actual returns, but at the 1969 annual meeting of The Rouse Company stockholders he attempted to do so. "My estimate is that by the time Columbia is completed (in 1981, under present schedules), the pretax returns should reach one hundred fifty million dollars, and perhaps more."⁷⁴

Residents give many reasons for moving to planned communities. Some were attracted by the concept of the new towns. Some liked the recreational facilities, good schools, and general appearance of the area. Some moved because of the convenience, the nearness to work and shopping and recreational facilities. Some residents were attracted by the peace and quiet of the small neighborhoods. Economic considerations attracted some because of the good price they got on a home or lot. The open space and layout of the town drew some; and some came because of the contemporary style of architecture and newness of everything. Some residents were attracted by the fewer maintenance problems.⁷⁵

Most of the new towns including Columbia, play up their recreational facilities in their advertising campaigns. These facilities actually play only a small part in total neighborhood satisfaction of the residents.⁷⁶ Some of the potential predictors of neighborhood satisfaction that actually had

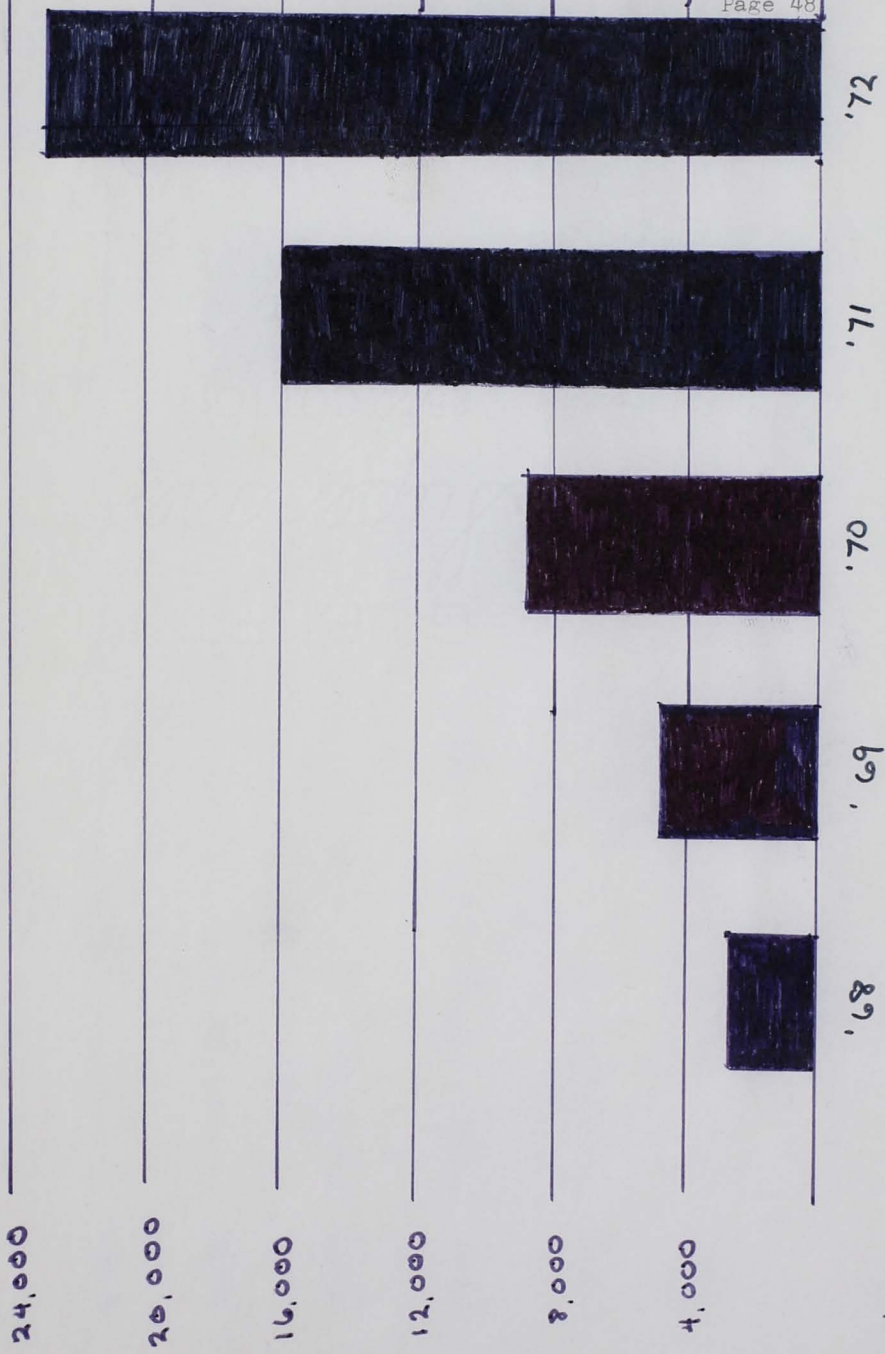
the highest correlation are neighborhood upkeep, the friendliness and unfriendliness of neighbors, similarity or dissimilarity with neighbors, the noisiness or quietness of the neighborhood, nearness of parks for children, and the investment quality of the home.⁷⁷

Community satisfaction in planned cities is showing where developers most notice, the open market. The resale value of homes in planned communities is soaring. In most planned communities market appreciation of homes has been at least as rapid as in conventional tracts nearby, and in some cases has far outdistanced them. The value of the average home in Columbia rose by twenty-two percent annually in 1971 and 1972. This is higher than even the fast-inflating Washington suburbs.⁷⁸

New towns have many advantages. They attempt to strengthen community ties and plan for the individual's entire life cycle. They offer a wider variety of recreational facilities for all age groups. They attempt to change from the pattern of suburban-type community's homogeneity. They hope to provide low-income as well as middle and upper-income housing, but this may depend on whether or not they get more federal aid.⁷⁹

New towns are also aiming for a racial mix not found in most suburbs. The figures for Columbia, the most heavily integrated of the new towns, suggest that many white suburbanites do not object to having black neighbors. Fourteen percent of the cities residents are black, mostly in the middle-income bracket.⁸⁰

Resident Population



Fiscal

Let's print a graph of the data.

Sales and Leases of Dwelling Units to
Individuals
Cumulative

Units
7000

6000

5000

4000

3000

2000

1000



'72



'71



'70



'69



'68

Fiscal

Land Sales of Residential Units to Builders
Cumulative

The Great City Years
The Growth of Burbank
California

Units

14000

12000

10000

8000

6000

4000

2000

1968

1969

1970

1971

1972

Fiscal



New towns could aid low-income groups as well as the cities that usually look upon them as a threat.⁸¹ If low-income housing is available, it could pull people out of the ghetto and create a buyers market in low-income housing.⁸² Cities would have room to rebuild if the ghettos were gone.⁸³

High density housing is inevitable with the expanding population. The cluster development in the new towns is a more graceful solution for high density.⁸⁴ The new towns have a lower density, three and two-tenths families per acre, than many of the suburbs, but leave much more open space that is much needed by the urban dweller. Distances between work and all the normal community facilities are brought much closer to the individual than the suburbs do.

New towns have advantages in themselves. Since they contain a large area, both industrial and residential, they can capture their own spill-over. If a commercial project, such as a mall, increases the surrounding land value, this advantage is gained by the new town itself. Industry draws more people to the town, and people draw more industry.⁸⁵

There are many disadvantages to new towns, too. They take a great deal of long-term capital investment and are considered a high risk. This is because of the high initial investment and the unpredictable market. The predicted rate of return is between seven and four-tenths percent and eleven and two-tenths percent, depending on the interest rate. This is rather low for the high risk involved.⁸⁶ This sounds as if investors would shy away from new towns, but this has not been the case. Their reasons may be the same as Connecticut

General's when they invested in Columbia. They knew that because of the land's value, the extent of it, and its location, that it would eventually be worth their investment.

Many of the new towns are little more than glorified suburbs. Only Columbia has a community-wide health program and internal transportation system, mini-buses. Cedar-Riverside, near Minneapolis is the only one to try mixing families of different income levels in the same neighborhoods. Jonathan, also near Minneapolis is the only new town to experiment with new forms of housing, such as modular homes.⁸⁷

The extensive planning that goes into all these projects can in itself be a handicap. The finality in the plans can often leave little room for modifications to fit human needs and corrections for any mistakes. These great plans can give the towns a feeling of an institution.⁸⁸

If the new towns can not either with or without federal aid provide low-income housing, this could cause a great deal of discord with the ideals behind the towns. They would not be self-sufficient, with jobs and housing for all. If the service people and low-paid professionals could not afford living in the new town, it could result in a two-way commuter traffic into and out of the town. A lower-income suburb could result with only upper-middle class living in the new towns, as most suburbs are now.⁸⁹

The size of the new towns can even be faulted. Some experts think that a Columbia-type city should contain a population several times Columbia's one hundred twenty

thousand to provide a variety of employment, educational, and recreational opportunities.⁹⁰ A self-contained city of Columbia-size with jobs for everyone would limit job choices. New towns will lack the culture available in the big cities. They will have no museums, art galleries, or zoos of which to speak.

New towns have one advantage yet unmentioned. Dollar for dollar, they offer far more than the conventional subdivision and most are better looking.⁹¹ The planned communities that can provide a proper balance of housing for low and moderate incomes will not turn into bedroom communities, as the suburbs have, and will prove to be economically feasible.⁹² It must also be kept in mind that new towns are not a cure-all for urban ills, and should not be judged as such. They are part of a balanced community-development program working toward restoring the cities' health. They are a working alternative to the urban sprawl now beginning to consume large sections of the country.

Their survival in a useful form may depend on whether or not they receive more Federal, state, and local support. Zoning is an important power the local authorities have. The new towns rarely have the money to provide greenbelts or buffer zones; without government controls on zoning and regional planning, they could eventually wind up sprawling together just as the suburbs and cities are. Whether or not new towns can provide the low and moderate-income housing that will be necessary to make these communities true towns, and not just suburbs may depend on government aid and loans, also.

Possibly the best way to judge new towns is by the goals they themselves set. Looking at Rouse's four goals will give some idea of the progress Columbia has made toward becoming a city. His first goal, to make Columbia a real city, is probably the hardest to judge at this point with the city containing only twenty-five percent of its planned population. It does have industry and a great number of jobs either available or opening up before the city is completed. Columbia has at least some low-income housing available and more planned.

The second objective, respect for the land is much more easily evaluated. Rouse saved twenty-three percent of the total acreage as permanent open space. This land belongs to the Columbia Park and Recreation Association and which serves basically as a trust for the residents. Rouse saved much of the forest and woods, and preserved the major stream valleys, as well as building five lakes to enhance the community.

Rouse made great efforts to achieve his third goal, to provide the best possible environment for people. His panel of experts was an innovation attempted to find what the best environment would be, something suburbs and most new towns make no attempt to do. The buying public must believe that the environment is a superior one since the resale values are rising faster than anywhere else in the area.

The final goal of profit as an indicator of the consumer's willingness to pay for better planning is another that is difficult to judge yet. Rouse himself expects a profit and all the financial corporations that are creditors or investors

must believe in the economic feasibility of the town to have invested so heavily.

In the last ten years, Columbia and other new towns in this country have been proving that they can be built and inhabited. With support from government and public agencies and regional planners, they can prove that they can continue to survive as small cities and not fade out as many of the old suburbs have after a generation.

Footnotes

¹"Where City Planners Come Down to Earth." Business Week, (August 20, 1966), p. 101.

²Anthony Downs. "Private Investment in the Public Weal," Saturday Review, 54 (May 15, 1971), p. 24.

³Downs, p. 24.

⁴Margaret Mead. "The Crucial Role of the Small City in Meeting the Urban Crisis," Man in the City of the Future, edited by Richard Edliss and Clarence Walton, (London, 1968), p. 51.

⁵Gerald Burke. Towns in the Making, (New York, 1971), p. 19.

⁶Burke, p. 20.

⁷Burke, p. 22.

⁸Burke, p. 31.

⁹Burke, p. 47.

¹⁰Burke, p. 53.

¹¹Burke, p. 68.

¹²Burke, p. 76.

¹³Burke, p. 135.

¹⁴Burke, p. 137.

¹⁵Burke, p. 137.

¹⁶Albert Fein. Fredrick Law Olmsted and the American Environmental Tradition. (New York, 1972), p. 35.

¹⁷Mel Scott. American City Planning Since 1890. (Berkley, 1960), p. 89.

¹⁸Burke, P. 150.

¹⁹Scott, p. 90.

²⁰Burke, p. 149.

²¹Scott, p. 233.

- 22 "Brave New Towns that Aged Awkwardly." Business Week, (January 9, 1971), p. 22.
- 23 Wold von Eckardt. "New Towns in America," The New Republic, 149(October 26, 1963), p. 17.
- 24 Scott, p. 456.
- 25 William H. Whyte, The Last Landscape. (Garden City, 1968), p. 156.
- 26 Peter Hall. "The Urban Culture and the Suburban Culture." Man in the City of the Future, edited by Richard Eells and Clarence Walton, (London, 1968), p. 102.
- 27 Gurney Breckenfeld. Columbia and the New Cities, (New York, 1971), p. 54.
- 28 "New Towns:Lessons Europe Is Teaching Us," Business Week, (November 22, 1969), p. 130.
- 29 "New Towns:Lessons Europe Is Teaching Us," p. 131.
- 30 Whyte, p. 159.
- 31 Whyte, p. 173.
- 32 Scott, p. 457.
- 33 Breckenfeld, p. 12.
- 34 Breckenfeld, p. 22.
- 35 Breckenfeld, p. 19.
- 36 Breckenfeld, p. 20.
- 37 James Rouse. "Cities that Work for Man," Man in the City of the Future, edited by Richard Eells and Clarence Walton, (London, 1968), p. 153.
- 38 Rouse, p. 153.
- 39 Morten Hoppenfeld. "A Sketch of the Planning-Building Process for Columbia, Maryland." Journal of the American Institute of Planners, (November 1967), p. 402.
- 40 Edward P. Eichler. "Why New Communities?" Shaping an Urban Future, edited by Bernard J. Frieden and William W. Nash, Jr. (Cambridge, 1969), p. 99.
- 41 Rouse, p. 155.
- 42 Victor Gruen. The Heart of Our Cities. (New York, 1964), p. 273.

43 Gruen, p. 286.

44 Gruen, p. 274.

45 "Maryland's New Town May Make It Big." Business Week, (March 9, 1968), p. 132.

46 Wolf von Eckardt, "Are We Being En-Gulfed?" The New Republic, 157(December 9, 1967), p. 23.

47 Anne Chamberlin. "What Happened to Dream Town?" Saturday Evening Post, 241(June 1, 1968), p. 68.

48 Eckardt, "Are We Being En-Gulfed?", p. 23.

49 "The Long Perilous Path." Forbes, 104(August 15, 1969), p. 42.

50 "The Messianic Master Builder," Life, 62 (February 24, 1967), p. 36.

51 Breckenfeld, p. 229.

52 Breckenfeld, p. 226.

53 Breckenfeld, p. 255.

54 A. Bailey. "Profiles: Through the Great City." New Yorker, 40 (August 5, 1967), p. 52.

55 Breckenfeld, p. 261.

56 Bailey, p. 51.

57 Breckenfeld, p. 264.

58 Breckenfeld, p. 265.

59 Breckenfeld, p. 267.

60 Breckenfeld, p. 269.

61 Breckenfeld, p. 271.

62 Breckenfeld, p. 193.

63 Breckenfeld, p. 284.

64 "The Messianic Master Builder," p. 40.

65 Breckenfeld, p. 294.

66 Breckenfeld, p. 295.

67 Rouse, p. 160.

68 Breckenfeld, p. 275.

- 69 William E. Hawkins. "Sole Four Service Stations in Columbia Result in Long Auto Lines for Gas." The Evening Sun. (February 20, 1974), p. F2.
- 70 Personal Communication with The Rouse Company. March 1974.
- 71 Breckenfeld, p. 307.
- 72 Breckenfeld, p. 308.
- 73 Breckenfeld, p. 308.
- 74 Breckenfeld, p. 308.
- 75 Robert B. Lansing, Robert W. Marans, and Robert B. Zehner. Planned Residential Environments. (Ann Arbor, 1970), p. 39.
- 76 Lansing, p. 126.
- 77 Lansing, p. 131.
- 78 Edmund Faltermayer. "We're Building a New Kind of Togetherness." Fortune. 88(October, 1973), p. 133.
- 79 Eichler, p. 102.
- 80 Faltermayer, p. 133.
- 81 Gruen, p. 57.
- 82 "A New Type 'New Town' Breaks Ground," Business Week, (July 19, 1969), p. 132.
- 83 Eckardt, "New Towns in America," p. 18.
- 84 Whyte, p. 212.
- 85 Downs, p. 25.
- 86 Eichler, p. 107.
- 87 Leonard Downie, Jr. "The 'New Town' Mirage," The Nation, 214 (May 15, 1972), p. 619.
- 88 Whyte, p. 246.
- 89 Theodore Roszak. "Life in the Instant City." The Nation, 204 (March 13, 1967), p. 339.
- 90 Scott, p. 646.
- 91 Whyte, p. 244.
- 93 Scott, p. 647.

Graphs and Charts

Maps on page 4- Burke, p. 74.

Map on page 6- Burke, p. 75.

Maps on page 9- Burke, p. 149.

Map on page 11- Burke, p. 156.

Map on page 14- Whyte, p. 155.

Map on page 21- Gruen, insert following page 272.

Details of map on page 22- Gruen, insert following page 272.

Map on page 27- "Visitor's Guide to Columbia." a publication of Howard Redearch and Development Company, (1974), p. 180,

Graph on page 33- "Promise and Purpose of Columbia: The First Five Years." a publication of the Howard Research and Development Company (November 1972), p. 10.

Graph on page 35- "Promise and Purpose of Columbia", p. 13.

Graph on page 37- "Promise and Purpose of Columbia," p. 13.

Picture on page 38- Hawkins, p. F2.

Graph on page 40- "Promise and Purpose of Columbia," p. 19.

Graph on page 41- "Promise and Purpose of Columbia," p. 17.

Graph on page 42- "Promise and Purpose of Columbia," p. 14.

Graph on page 43- "Promise and Purpose of Columbia," p. 2.

Graph on page 44- "Promise and Purpose of Columbia," p. 2.

Graph on page 48- "Promise and Purpose of Columbia," p. 9.

Graph on page 49- "Promise and Purpose of Columbia," p. 9.

Graph on page 50- "Promise and Purpose of Columbia," p. 9.

Bibliography

- Bailey, A. "Profiles Through the Great City," New Yorker, 40 (August 5, 1967), 50-58.
- "Brave New Towns that Aged Awkardly," Business Week, (January, 9, 1971), 22-24.
- Breckenfeld, Gurney. Columbia and the New Cities. New York, 1971.
- Burke, Gerald. Towns in the Making. New York, 1971.
- Bush, George. "Europe's New Cities." Esso Trade Journal, (1971), 9-15.
- "Can 'New Towns' Meet a Budget?" Business Week, (November 18, 1967), 103-104.
- Chamberlin, Anne. "What Happened to Dream City?" Saturday Evening Post, 241, (June 1, 1968), 64-68.
- "Cities Made to Human Messure," Life, 70 (January 8, 1971) 76-83.
- Downie, Leonard, Jr. "The New Town Mirage," The Nation, 214 (May 15, 1972), 617-621.
- Downs, Anthony. "Private Investment in the Public Weal," Saturday Review, 54 (May 15, 1971), 24-26 and 56.
- Eckhardt, Wolf von. "Are We Being En-Gulfed?" The New Republic, 157 (December 9, 1967), 21-23.
- Eckhardt, Wolf von. "A Fresh Scene in the Clean Dream," Saturday Review, 54, (May 15, 1971), 21-23.
- Eckhardt, Wolf von. "New Towns in America," The New Republic, 149 (October 26, 1963), 16-18.
- Eichler, Edward P. "Why New Communities?" Shaping an Urban Future. edited by Bernard J. Frieden and William W. Nash, Jr., Cambridge, 1969.
- Faltermayer, Edmund. "We're Building a New Kind of Togetherness," Fortune, 88 (October 1973), 130-133 and 234.
- Fein, Albert. Fredrick Law Olmsted and the American Environmental Tradition. New York, 1972.
- Gruen, Victor. The Heart of Our Cities. New York, 1964.
- Gunther, John. "Inside London: The City and the Green Towns," Harpers Magazine, 235, (August 1967), 79-82.

- Hall, Peter. "The Urban Culture and the Suburban Culture," Man in the City of the Future, edited by Richard Eells and Clarence Walton, London, 1968.
- Hawkins, William E. "Sole Four Service Stations in Columbia Result in Long Auto Lines for Gas," The Evening Sun, Baltimore (February 20, 1974), F2.
- Hoppenfeld, Marton. "A Sketch of the Planning-Building Process for Columbia, Maryland," Journal of the American Institute of Planners, (November 1967), 398-409.
- Lansing, John B., Robert W. Marans, and Robert B. Zehner. Planned Residential Environments. Ann Arbor, 1970.
- Leberman, Myron. "New Communities." Saturday Review, 54 (May 15, 1971), 20.
- Logue, Edward P. "Piecing the Political Pie." Saturday Review, 54 (May 15, 1971), 27-29 and 57.
- "The Long Perilous Path," Forbes, 104 (August 15, 1969), 42.
- "Maryland's 'New Town' May Make It Big," Business Week, (March 9, 1968), 132-138.
- Mead, Margaret. "The Crucial Role of the Small City in Meeting the Urban Crisis," Man in the City of the Future, edited by Richard Eells and Clarence Walton, London, 1968.
- "The Messianic Master Builder," Life, 62 (February 24, 1967), 35-42.
- Mohloy, Nagy, and Sibyl. Matrix of Man. New York, 1968.
- "New Towns: The Old or the New?" Architectural Forum, 139 (November, 1973) 16+.
- "The Newest New Town," Time, 101 (February 26, 1973), 70.
- "New Towns-Lessons Europe Is Teaching Us," Business Week, (November 22, 1969), 130-131.
- "A New Type of 'New Town' Breaks Ground," Business Week, (July 19, 1969), 132-136.
- Oberman, Joseph. Planning and Managing the Economy of the City. New York, 1972.
- "Planning Cities for Profit," Time, 89 (February 10, 1967), 95.
- "The Profits of Building Well," Fortune, 80 (July, 1969), 40.
- "The Promise and Purpose of Columbia: The First Five Years," a publication of the Howard Research and Development Corporation, November, 1972.

- "Reston : First of New Satellite Cities," Life, 59,
(December 24, 1965) 144-145.
- Roberts, Myron. "The Making of a City," Saturday Review,
50 (September 23, 1967) 72-74.
- Roszak, Theodore. "Life in the Instant City," The Nation,
204, (March 13, 1967), 336-340 and 350.
- Rouse, James W. "Cities that Work for Man," Man in the City
of the Future, edited by Richard Eells and Clarence
Walton, London, 1968.
- The Rouse Company. Private communication. March 1974.
- Scott, Mel. American City Planning Since 1980. Berkley,
1969.
- "A Strong New Boost for 'New Towns'," Business Week, (May
31, 1969), 50.
- Viorst, Milton. "Reston," Horizon, 9 (Autumn, 1967), 34-
41.
- "Visitor's Guide to Columbia," a publication of Howard
Research and Development Corporation.
- "Where New City Planners Come Down to Earth," Business Week,
(August 20, 1966), 100-110.
- "Why New Towns Boom or Fall Flat," Business Week, (November
15, 1969). 149,
- Whyte, William H. The Last Landscape. Garden City, 1968.
- Whyte, William H. The Organization Man. Garden City, 1956.