

# Linear City and Cross-Brooklyn Expressway

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*Rogers, Taliaferro, Kostritsky and Lamb*

THE Linear City and Cross-Brooklyn Expressway project has grown out of two major development needs for central Brooklyn — the expressway and schools. Other needs to be met, both physical and social, are equally important and are added to the total complex now that the project has advanced to reality.

The project is conceived to be one of total community development, integrating normally independent public programs and some private programs into one cohesive and mutually beneficial endeavor. This effort requires cooperation and coordination among a number of public agencies at all levels of government — a requirement that has few, if any, precedents.

The skills and resources exist to produce each of the elements independently but the formula and expertise are lacking to coordinate and direct the widely divergent (and sometimes at odds) groups — government, private enterprise, designers and planners, and community — into a community development symphony. This recognition of the need to synchronize public efforts is not limited to New York; indeed, the principle is simultaneously being called for throughout the United States. The Model Cities Program is a response to this need. The Federal Department of Transportation's Bureau of Public Roads has recently initiated action in many cities to encourage them to consider the urban expressway in the broader context of the total community before the highway is irrevocably committed. The Department of Transpor-

tation's program, employing an Urban Design Concept Team is the basis for accomplishing the Cross-Brooklyn Expressway and the Queens-Interboro Expressway. The Concept Team approach includes an integral part of its planning technique participation at every step, both by the local officials responsible for approving and carrying out the plan, and by the citizens of the community who will ratify it.

### **The Expressway Need**

Brooklyn is served by an expressway system that encircles it, except on the northeast boundary with Queens. For years, there has been a need for an east-west expressway to serve central Brooklyn. When the Interstate Highway program was instituted, the Bushwick Expressway was proposed to link Manhattan Bridge (and the proposed Lower Manhattan Expressway) via Bushwick Avenue to the Nassau Expressway near Kennedy Airport. Later, the Triborough Bridge and Tunnel Authority proposed an alternate route leading from the Queens-Midtown Tunnel (and the proposed Mid-Manhattan Expressway) along the Brooklyn-Queens boundary line to the Nassau Expressway.

Recognizing the extra through-traffic load that this would impose on Manhattan, as well as the disruption such a plan would bring to the crowded communities along the proposed rights-of-way, New York transportation planners suggested the Cross-Brooklyn Expressway as an alternative. This would cause through traffic to bypass Manhattan entirely, by connecting the Nassau Expressway via the Verazzano-Narrows Bridge and Staten Island to New Jersey and points south and west. Furthermore, by using the existing right-of-way of the L.I.R.R. Bay Ridge Line, this route would entail minimal displacement of people. The route proposed would follow the Bay Ridge Line right-of-way to Linden Avenue, at which point it would swing southeast, follow Flatlands Avenue, and then swing northeast to the Linden Avenue-Conduit Boulevard intersection, in the vicinity of Kennedy International Airport.

Later, the Queens-Interboro Expressway was proposed to connect the Cross-Brooklyn Expressway to the approaches of the Triborough Bridge near LaGuardia Airport. This north-south link would follow the New York Central Connection Railroad, interchange with the Interboro Parkway near Atlantic Avenue at Broadway, and join the Cross-Brooklyn Expressway near Linden Avenue at the Bay Ridge Railroad. The Queens-Interboro and the Cross-Brooklyn would complete a highway loop around Manhattan through areas that have a high potential for future industrial, commercial, and community development.

The combined Cross-Brooklyn and Queens-Interboro Expressways, now proposed as part of the Interstate Highway System, are superior in two ways over the prior alternatives: they would tend to reduce rather than add to the congestion in Manhattan, and they would be a great deal less disruptive to the local community because they would cross areas of low population density and utilize established rights-of-way.

## **The School Need**

### *Parents' Proposal*

In 1965, the New York Board of Education proposed to construct seven schools on scattered sites to alleviate severe overcrowding in the Brownsville, Canarsie, Midwood Flatlands, and East New York sections in east-central Brooklyn. Parents in Brownsville felt the schools would do nothing to alleviate the *de facto* segregation in Brownsville schools and, in fact, believed the proposed schools would result in further school segregation.

The parents developed a proposal for an education park for intermediate grades to house a minimum of 15,000 children and serve all east-central Brooklyn. It was to be located on a large undeveloped tract (Flatlands Industrial Park) just south of Brownsville. Among those children attending such a park would be students from six existing intermediate schools that were already predominantly either Negro or white. Under the terms of the parents' proposal, five of the intermediate schools replaced by the park would be transformed into elementary schools to alleviate overcrowding. The sixth would be turned into a high school annex.

The parents sought and obtained an injunction in the spring of 1966 from the New York State Commissioner of Education to prevent the Board of Education from proceeding with the construction of the seven scattered-site schools until the feasibility of their plan was studied.

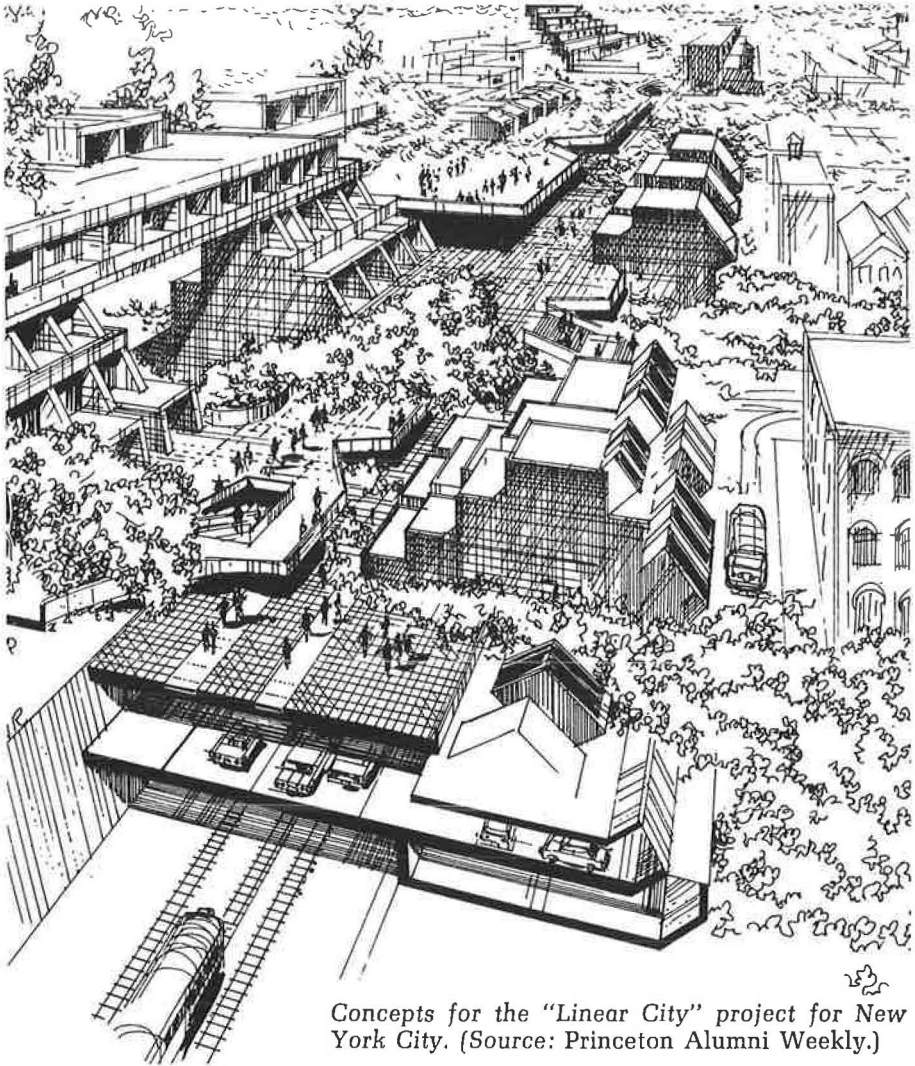
### *Board of Education Staff Counterproposal*

During the summer of 1966, the School Planning and Research Division of the New York City Schools developed an alternative school construction proposal for east-central Brooklyn. It called for the construction of two education parks: one to serve Canarsie, Brownsville, Flatbush-East Flatbush, and Midwood Flatlands; the second to serve East New York and parts of the neighboring borough, Queens.

The first park was to be located in Flatbush-East Flatbush and comprised one senior high and three intermediate schools, with a total capacity of 10,000 students. In addition to the park, three scattered-site intermediate schools were proposed — one in Brownsville, the other two in predominantly white neighborhoods with no site specified. The second park, to be located in East New York, included a high school and three intermediate schools with a total capacity of 9,400 students.

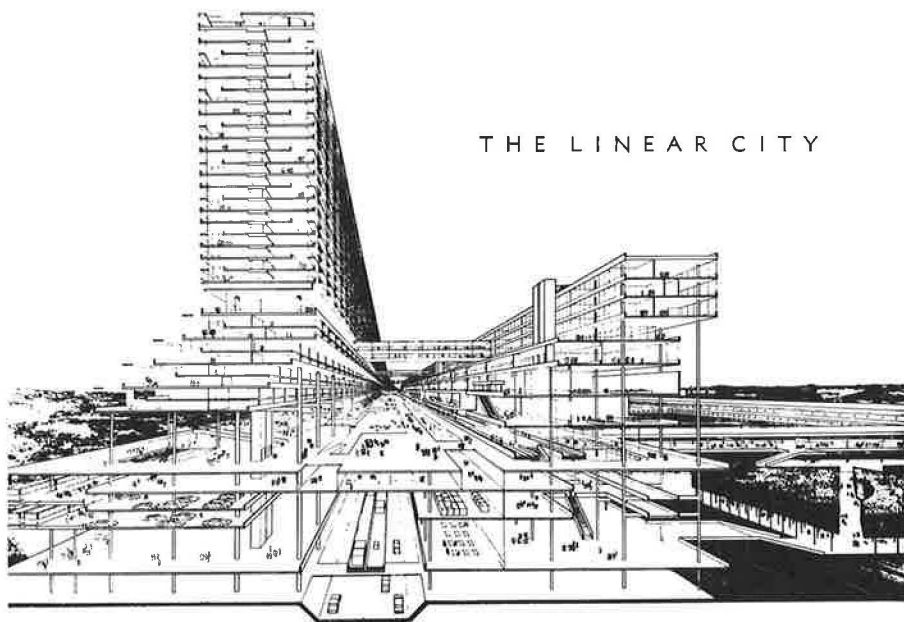
### *Corde Corporation's Evaluation of the Two Proposals*

At this point, the Board of Education asked the Corde Corporation, which was then in the midst of a general study (*Report on the Education Park*, Corde Corporation, Wilton, Connecticut, 1966) of the education park, to evaluate the parents' proposal and the counterproposal by the staff of the Board.



Concepts for the "Linear City" project for New York City. (Source: Princeton Alumni Weekly.)

Corde's investigation of the education park had revealed that "several important opportunities an education park can offer include the provision for greater decentralization of school administration, the creation of specialized facilities not normally feasible in all scattered-site schools, a greater potential for racial and economic integration, and the opportunity for more effective deployment of staff." It also suggested that "if the park is to be an effective new approach to school



programming, its organization and form must be kept flexible to meet the specific needs of the area it is to serve. This applies not only to its size and grade organization, but also to its physical relationship to the community.”

One of the big points of contention between the parents and the Board of Education staff, as stated in the public record, was the question of what was happening to the racial composition of east-central Brooklyn. The only way to determine who was right was to develop a comprehensive demographic analysis. None existed.

The Board's staff responded unfavorably to the parents' proposal because the administrators felt the racial composition of areas to be served by the park was unstable, and that the park would lead to *de facto* school segregation. Using the same data, the parents, with the outside help of a statistician, arrived at substantially different conclusions.

The difference, therefore, between the staff and the parents was substantially as follows: The parents saw increasing stability for the five communities that could be assured by the construction of an education park serving all intermediate school children and offering quality education as a positive attraction to white students. The staff took a pessimistic view. It felt that the parents' proposal, because of racial

change in the population, would ultimately result in a segregated park. As an alternative, the staff offered two parks, both located in predominantly white neighborhoods, with one drawing from Queens for many of its white students. In addition, it proposed the construction of three neighborhood intermediate schools, at least one of which would have been clearly segregated.

Corde's examination of the five communities described in the Board of Education's proposal (the Brownsville parents' proposal had included only four of these) observed that within the area, populated by 725,000 people, one can find the diversity in people, buildings, and geography that makes for a city. It has a waterfront, ghetto tenements, large commercial areas, single-family homes, apartments, industry, open space, and major transit facilities. It also has many important city institutions, including Brooklyn College. In the highly developed northern section of the area, one sees evidence that physical blight, already pervasive in Brownsville, is beginning to spread. To the south, the new construction represents another chapter in New York's frantic effort to augment its supply of standard housing. Along the Bay Ridge railroad line many of the present land uses (marginal light industry, junk yards, obsolete plants, and inefficient storage facilities) represent a distinct threat to the area.

The Corde Corporation's analysis also showed that both the parents and the staff had underestimated the probable student enrollments by more than 2,600 intermediate school pupils by 1972.

The study pointed out some advantages, but many shortcomings in the proposals of both the parents and the administrative staff, including the problem that neither of the proposals took into consideration the Cross-Brooklyn Expressway which would traverse the entire area along the alignment of the railroad. The highway would therefore cut through part of one of the park sites proposed by the school staff and partially isolate the Flatlands site proposed by the parents.

But the highway did more than cut through two of the sites under consideration. It promised to create a physical barrier between the north and south portions of east-central Brooklyn. In other words, the huge public investments represented by the expressway and the schools were in direct conflict with each other. East-central Brooklyn had all the conditions for disaster — a lack of precise demographic data, massive housing construction unrelated to total community planning, unchecked blight and deteriorating housing, and the clash of a highway alignment with school sites.

### **Linear City Proposal**

The Corde Corporation reported that "under the prevailing conditions in east-central Brooklyn, both park proposals seem inadequate. What is needed is a way in which school planning can be related to the

existing strengths and planning opportunities. High among these is widespread community concern, as typified by the efforts of the Brownsville parents. Another is that, while east-central Brooklyn has its problems, it has much in the way of community strength in terms of buildings as well as institutions. The third is the highway — the fact that the area was slated for huge, public investment in a major facility, which, if properly planned, could help rather than hurt. Indeed, the highway represents a key to the revitalization of east-central Brooklyn."

Each of the five communities borders the alignment proposed for the highway, the existing railroad line. While each community presents widely divergent characteristics, the railroad presents a common theme among them and unites the entire area.

The Corde report states that "combination of the already incompatible land uses along much of the railroad and the new highway could be a severe blow to the health and vitality of east-central Brooklyn, seriously hampering efforts to achieve residential stability. If the highway is meshed with sensitive community planning, however, it could lead to total linear development of a new community center that would include housing, commercial facilities, recreation, and schools connecting the entire east-central Brooklyn area.

"Through the use of air rights, adjacent sites, and spot clearance, the construction of a transportation spine [can be] accompanied by large-scale residential, commercial, and public development, including local transit services for at least the five communities in which the schools would play a major role. Thus, the means for total linear development would be established. The system of schools could be anchored at one end by Brooklyn College, at the other by a new community college and technical institute or a commercial center. . . ."

Corde felt that the proposed development would meet not only the objectives of the original education park proposals, but would achieve the equally crucial objective of combining school programs with total community development.

Corde specified the goals for the undertaking and the requirements for achieving them by stating that "in concert with other public agencies, and with community involvement in the planning, this comprehensive effort to provide housing, community service centers, employment opportunities, shopping clusters and school and cultural centers could result in a revitalized city-within-a-city. This linear city would be stable, environmentally pleasing, and capable of offering the urban dweller conditions for the attainment of his personal aspirations."

The Corde Corporation pointed out that the first step toward this total development is recognition by the city of the opportunity to create a major transportation spine that would not just cross the area, but also serve it. The city has recognized this potential and is proceeding with the development of Linear City.



### **Call for Action**

In February 1967, the Mayor proposed that Linear City be developed in conjunction with the Cross-Brooklyn Expressway. In August, the Commissioner of Education for the State directed the City Board of Education to include in Linear City the school facilities it had programmed for the east Brooklyn communities already described. At the same time, the Planning Commission established the goals of the three major elements composing the project — the highway, the linear city, and the planning organization itself, an innovative administrative mechanism — and initiated action to realize them.

#### *Goals for the Expressway*

The Cross-Brooklyn Expressway will complete the expressway system of western Long Island and form a link in the Interstate Highway network. Its planning should take into account all forms of transport, including motor vehicles, trains, and mass transit, in a balanced tri-state program. The expressway should be a catalytic agent, stimulating development over, around, and under it, and improving the quality of the area. Its design should exploit the latest technological innovations for construction, safety, speed and efficiency. Last, and not least important, it should please the eye of both traveler and resident. Architectural quality should be recognized as an essential ingredient of good expressway design, not treated as a luxurious accessory.

#### *Goals for Linear City*

The Linear City idea is not a new invention; it comes from a distinguished theoretical tradition. Soria y Mata, a Spanish engineer who was inspired by the introduction of the trolley car in Madrid, constructed in the late 1800's a small portion of his Ciudad Lineal, a strip one block wide of mixed development on either side of the line. Le Corbusier's 1929 proposal for Rio de Janeiro (a 14-mile long serpentine building with a highway on its roof) and New York's Grand Central Terminal complex are other examples of the linear city concept.

Multiple use of the right-of-way or of the transit corridor became a practical reality in the 1950's and 1960's with projects such as the Tokyo Expressway, which accommodates commercial and industrial facilities under its arches; downtown Montreal's system of layered separation of different modes of travel, with carefully coordinated access to multi-use development aboveground; and the Scottish new town, Cumbernauld.

Brooklyn's Linear City is to provide a community facilities spine, including space for both public and private services, that will serve the entire borough, with primary emphasis on the neighboring communities. The social aims include planning to minimize need for relocation of people, affirmative action to achieve racial integration, and the provision, besides efficiency and comfort, of aesthetic delight. Also, in



the course of design and construction, and later, when the project is completed and operating, widened employment opportunity should be a byproduct of Linear City. Linear City should become an attractive symbol that can stimulate neighborhood pride and a sense of community.

The basic component of the public facilities will be a new educational system for 18,000 to 20,000 pupils, in accordance with the order of the State Commissioner of Education. It is intended to provide a full range of services, from preschool through adult education, and to reflect the needs and desires of the community. This system should have autonomy in curriculum development, programming, and administration, and should take account of the fact that there are many life styles in a big city, and that people must be encouraged to realize their potential on their own terms.

Housing to accommodate all income groups should be an integral part of Linear City. Although actual number of units would be determined at the time of specific design, a minimum of 6,000 units is suggested.

Linear City will be 6-miles long, anchored by Brooklyn College at one end and another major institution, perhaps a technical college or commercial center, at the other. There will be room along it for a full range of urban functions. Besides applying the linear design theory, it will test more recent theories which subordinate individual architectural elements to an overall urban whole that serves a variety of uses. The form of this linear, multilevel structure must be sensitively fitted into its social and physical setting. The form will promote integration of city functions, which, in turn, will generate new administrative relationships. The final aspect of the physical planning will be the design of new managerial mechanisms required by private enterprise and local government to operate the new form of integrated city.

#### *The Design and Development Process*

A basic aim of the project is to establish a viable planning mechanism that can coordinate the responsible public agencies, the local residents, and the planning and design professionals concerned with the project into an effective organization for planning the project to their mutual satisfaction. The object is to eliminate from the planning and development process the delays and misunderstandings that have hampered or even prevented completion of public works projects. The goal has already been acted on. The system has been officially adopted and is being implemented.

#### **Implementation of Linear City**

The Planning Commission chose to follow the multidisciplined approach to highway planning recommended by the Secretary of Transportation and the socially responsive planning process evolved by the Committee on Urban Design of the American Institute of Architects.

The commission requested Rogers, Taliaferro, Kortritsky and Lamb, architects-planners who had been involved with both systems, to apply them in preparing a plan for planning the Expressway-Linear City project. Their report, published September 1967, outlined a method to be used in organizing the planning work and the people who would be involved in planning, spelling out the following:

- Who is required to do the planning: Team 1 — architects, engineers and other professionals; Team 2 — decision-makers (public officials responsible for funding and administering the project); and Team 3 — users and ratifiers (residents of the community);
- When each set of proposals and the decisions concerning them must be made to meet the development schedule (completion of construction is planned for 1975, and the school facilities are programmed for occupancy in the fall of 1972);
- How the design process functions, in a series of decisions arrived at by interchange between the teams leading from basic objectives to final details;
- How much is required by way of dollars and professional manpower for the planning process.

### **Organization for Planning**

The approach to planning calling for three teams is today embodied in the following form:

*Design Team* — The Brooklyn Linear City Development Corporation has contracted with the Board of Education and the Federal Department of Housing and Urban Development and is in the process of contracting with the State Department of Transportation. The corporation will have its own staff to perform duties such as contract administration, scheduling, coordination of consultants, administration of the design team apprenticeship program, dissemination of information, community relations, technical review of consultants work and project historian. Eventually, the corporation is conceived to perform the additional duties of construction management and possibly project management when Linear City is operating.

The work of the corporation will center around educational planning and programming and design. Design will be performed by a multidisciplined group headed by a qualified urban designer. The design group's primary disciplines are architecture, urban planning, highway engineering, transportation planning, and landscape architecture. The group will also include other relevant disciplines, such as real estate economics, housing, sociology, pollution control, acoustical engineering, lighting, and graphics, which will be brought into the work as they are required.

*The Decision-Making Team* — The design team must be responsible to a decision-making team, including representatives plenipoten-

tiary of all levels of government involved, of all public programs involved (highways, housing, recreation, education, etc.), and of all private interests involved. This team is the Brooklyn Linear City Development Corporation's Board of Directors. Presently, the Board's membership is proposed to include the Commissioner of the State Department of Transportation and the following city members: the chairman-director of the Planning Commission; a member of the Board of Education; a member of the Board of Higher Education; and the administrators of the Human Resources Administration, the Housing and Development Administration, and the Transportation Administration.

*The Community Team* — The general public, in a democratic society must ratify the decisions taken if these are to become reality. Instead of the secrecy that has traditionally surrounded highway planning, the planning should be conducted in a "fish bowl." At the very least, the alternatives considered by the decision-making teams should be publicized by the news media before a selection is made. The team will consist of representatives of neighborhoods surrounding the project, and of local, social, business, and political groups. Each representative should have the authority to speak for his constituency. The team will be responsible for providing information as to the local aspirations, for voicing the reactions of the residents to the design proposals as these are presented, and for making recommendations of its own. It serves as the community's advocate. This guarantees that those who will live beside Linear City and use its facilities will have a voice in the design process that shapes it. Inclusion of the user in the design process is one of the chief goals of the plan and represents a major departure from the traditional method of designing community facilities.

#### *The Decision-Making Process*

Interchange between the teams builds on basic assumptions and shared planning objectives and proceeds through stages of increasing particularization to establish the ultimate form for Linear City. Each stage of decision-making requires the presentation and consideration of possible alternative solutions, and each of these alternatives must be evaluated in the light of total cost and the social, aesthetic, economic, and functional benefits predicted for it.

Decisions will be reached on the basis of a creative dialogue between designer, decision-maker, and community, but the ultimate responsibility for the decision rests with the decision-making team who, by choosing a particular alternative, make a public and political commitment to carrying it out. They are taking a step in translating design into practical fact. They are responsible for reconciling theoretical designs with community aspirations, administrative practicality, and political reality. They have the authority to choose, modify, or even reject any of the designers' proposals, substituting alternatives of their own, at any point. Their discussions with the other teams will be the

instrument for adjusting technical costs and benefits to the objectives of the public programs and the political facts of life. Only by such adjustments can urban design proposals be translated into practical reality. Whatever the outcome of the discussion, the alternative adopted by the decision-makers is binding on the design team as conditional to subsequent phases of the design process, unless later developments require re-evaluation.

### *Progress to Date*

The initial decision in the planning process is to develop Linear City in conjunction with the Expressway, and to employ a multidisciplined team to plan it. The planning process then must translate the overall goals into practical terms, and end with an acceptable design for the project, arrived at through a series of decisions on increasingly detailed proposals. Today, the corporation has been formed, and its executive officer hired. It is assembling its staff, establishing its administrative organization, and negotiating for office space in east-central Brooklyn.

It is developing a community relations program and presently has several people in the field in Brooklyn. It is negotiating the contract with the State Department of Transportation to design the highways, and it is initiating workshops and other efforts to begin the educational programming and planning. On executing the agreement with the State Department of Transportation, it will start its design activities.

The overriding goal for Linear City is to create a totally new kind of urban environment. In light of the failure of existing social and physical institutions to meet our urban needs, a new approach is called for. Linear City is conceived as an urban laboratory, radical in concept, massive in scale, and embracing the fundamental aspects of the urban environment — its architectural form, the processes that produce the form, the life that flows within it, and the technical and managerial apparatus that serves this life. Linear City is intended as a prototype for a new solution for our urban needs, and as such merits nationwide attention.

## **Panel Discussion**

MR. KRAUSE: Who will pay the fees for the "advocacy planners"? To whom should they be responsible? And if the highway department, for example, should pay their fees, would that not raise the suspicion that they are biased in favor of the highway department?

MR. ROGERS: I used that term deliberately because the pattern has evolved where advocacy planners have been retained by local communities to in fact oppose public programs. This is why the rather facetious term "adversary planners." Their fealty has always been to their client, the community retaining them for either a nominal fee or no fee. I propose to take very seriously the point Mr. Pikarsky makes that we do have to be advocacy planners in a different sense. As members of a design team, we have a professional relationship to our client.

Normally, our fees are paid in this case out of Federal highway trust funds. The point is made therefore that you cannot in fact become an adversary planner where you are using your client's money to go out and oppose his project. I think being paid from highway trust funds, the advocate planner is simply an element of the total design team who works with the community to try to understand its true aspirations and to bring the parties into some kind of structured, meaningful dialogue so that their aspirations shape the final results (insofar as these can be shaped) in a Federal highway project.

MR. PIGNATARO: Is not much of what you suggest about community involvement in the planning, design, decision-making, implementation stages of the process largely the objectives of the Model Cities Program? And if so, has there been any intercourse between the linear cities group and the Model Cities Program in Brooklyn?

MR. ROGERS: The answer is yes, there has. The Model Cities Program in Brooklyn as geographically described covers a portion of the Cross-Brooklyn Expressway in the city, but not a large portion. In fact only two things have been concretely accomplished this past year: one being the organization of this multidiscipline team, and the other the sophisticated advocacy program that has been going forward within the community itself.

Now the Model Cities area has its own self-generated citizen's group to whom we are now addressing ourselves. It exists as an institution and does not exist in some of the other communities.