

# LE MIRAIL, A NEW QUARTER FOR THE CITY OF TOULOUSE

SHADRACH WOODS\*

## INTRODUCTION

In 1958 the mayor of Toulouse, M. Louis Bazerque, proposed to the city council that a site be acquired and developed as an extension of the city. The area under consideration, about 2000 acres, was largely agricultural land with some suburban development. Its centre was about five miles from the centre of Toulouse, on the other side of the Garonne river. The mayor's proposal to concentrate most of the immediate development of the city in this zone was adopted by the city council and approved by the prefecture of the Département de la Haute Garonne.

This project for the creation of a large scale development in Toulouse was encouraged by national planning authorities in the Ministry of Construction, who were proposing at this time the expansion of certain provincial cities to counterbalance the attraction of Paris. The planning commission had proposed that eight cities be encouraged to develop as regional capitals; one of these was Toulouse, which by its geographic position and its equipment qualifies admirably as an economic, administrative, commercial and cultural center.

The size of the new development was estimated at about 100,000 inhabitants. The population of Toulouse in 1954 was around 270,000 and it is expected to grow to around 400,000 in 1970. This increase will result from rural migration towards the cities, repatriation of French settlers from Algeria and normal demographic growth.

Before 1958 no effort had been made to expand the industrial activity of Toulouse. On the contrary, it was thought advisable to encourage a decentralization of light industry in order to reinforce the industrial potential of the surrounding towns. In 1958 the major industrial activity in Toulouse was divided into three sectors: (1) the aviation industry, employing about 16,000 persons; (2) building and construction, grouping about 18,000 jobs; and (3) the chemical industry, employing 4,000 to 5,000 persons.

The greatest number of industrial jobs were concentrated in two zones: the aviation industry to the north-west, and the chemical industry to the south-west of the city. One of the objectives of the localization of develop-

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\* Partner, firm of Candilis, Josic and Woods.

ment to the west of the city was to provide housing for the employees of the two major industrial zones.

### I. SITE SELECTION

The 2,000 acre site was chosen by the local planners because of its position between the two principal industrial zones of Toulouse, the existence of very little housing on this site, which is mostly composed of low-yield agricultural land in relatively small farms, and its proximity and ease of access. The site is well-watered, its topography presents no special problems and it has the advantage of including parkland with many fine trees. The city limits were modified to include this parkland when the master plan for Toulouse was adopted in 1958.

Traffic connections with the city were thought to present no particular problem. The choice of the site was also determined by the relative ease of putting into operation such a vast plan in this area: ease of acquisition of land, absence of the need to re-house an existing population and ease of access to the city centre, at least in the early stages of development.

The decision to concentrate a major proportion of future development of the city of Toulouse on this site—called “Le Mirail”—had become possible within the framework of a new administrative formula: that of the Z.U.P. (Zone à urbaniser par priorité—or Priority Planning Zone). This innovation consists essentially in the establishment of priorities for government financing and the execution of urban infrastructure. It also establishes priorities in the choice of sites for new developments which are dependent upon government subsidies. Some system of priorities was considered necessary to reduce the dispersion of new buildings and the high cost of public utilities which this dispersion produces. (It should be noted here that all public utilities in France are under either national or municipal ownership.)

The Priority Planning Zone system was intended to concentrate government investment in infrastructure and utilities to make this investment as effective as possible. It does not exclude new building outside the Priority Zone as long as this takes place on sites which are already fully equipped and served by utilities.

### II. LAND ACQUISITION AND DISTRIBUTION

Under this system land is acquired either through the normal buying process or through the exercise of the right of eminent domain, by a Corporation in which the national government and the municipality are associated with the Caisse des Dépôts, a national financing organization. This Corporation (in this case, called “La Société d'Équipement de la Haute-

Garonne) is affiliated with the Société Centrale d'Équipement du Territoire, which is the coordinating agency for all government investment in infrastructure, utilities or services.

The land within a Z.U.P. becomes automatically subject to a right of pre-emption by the collectivity in the event that it is put up for sale. Prices can be controlled by the national government, as in the case of acquisition through the use of the right of eminent domain.

Having acquired the land, the Corporation organizes the equipment of the site in urban infrastructure and utilities. This is done with money contributed or lent at low interest rates by the national treasury or raised by the municipality. This organization is achieved through various agencies: the Roads and Highways department for all road and main sewer construction, the National Gas and Electric Company, the municipal Water Company, etc. Once the building sites have been determined and equipped with the necessary infrastructure, the corporation redistributes the land to the various builders, who then become owners of lot on which they are authorized to build within the limits set by the plan and under the control of the Chief Architect, who is also responsible for the plan.

### III. FINANCING ARRANGEMENTS

The financing of the development is here considered under two headings: (A) preparation of the site (infrastructure), and (B) buildings (superstructure).

#### A. *Site Preparation*

The site preparation, which also includes land acquisition, concerns three categories of equipment, which are referred to as primary, secondary and tertiary services.

##### 1. *Primary Services*

Primary services are those connecting the new development to the existing urban network as well as those which are shared by the city and the new development (pumping station, sewage disposal plant, etc.). These services are partially financed by the national government in the form of direct subsidies, which vary according to the nature of the equipment. In the normal case of the addition of such services to a community, the government subsidy would be around forty per cent for sewage disposal improvement. For other services, such as water supply, the subsidy would vary with the water rates. In the present case, however, since the development is a planned operation which qualified under the provisions for special funds for social and economic expansion, it is hoped to increase the proportion of government sub-

sidy in order to lighten the burden on the city of Toulouse. For that part of the expense which is not covered by direct subsidies, the Corporation can obtain long-term (thirty-year) loans from the city of Toulouse.

## 2. *Secondary Services*

Secondary services are those which make up the main network of the new development and which concern only the new development. These are partially financed through the resale of building sites. The national government provides subsidies up to thirty per cent of the cost of this equipment or sixty per cent of that fraction of the cost which is not covered by the resale of building sites. The remainder is advanced by the city of Toulouse through long-term loans.

## 3. *Tertiary Services*

Tertiary services concern the connection of the various utilities to the buildings. These are entirely financed through the resale of building sites.

It is clear that the Corporation (Société d'Équipement de la Haute-Garonne), operating under this financing system, needs to have considerable financial resources available to cover those expenditures, including the acquisition of land, which cannot be immediately recovered. For the purpose of constituting the necessary cash, six-year loans are available from the Caisse des Dépôts at a rate of five per cent. On part of these the government will pay half the interest. The loans are underwritten by the city of Toulouse.

### B. *Buildings*

The price of building sites is manipulated to correspond to the type of dwellings proposed, being lower for the low-cost or low-rent housing projects.

Roughly the schedule of the infrastructure operation is estimated as follows (in thousands of francs—one franc equals approximately twenty-two American cents):

<u>Expenditures</u>		<u>Receipts</u>	
Primary Services .....	90,089	Subsidies .....	26,905
		City of Toulouse .....	63,994
Secondary Services .....	204,058	Subsidies .....	25,329
		City of Toulouse .....	16,886
		Resale of sites .....	161,843
Tertiary Services .....	167,345	Resale of sites .....	167,345
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	461,492		461,492

The selling price of building sites to developers would be:

$$161,843,000 + 167,345,000 = 329,188,000.$$

The financing of buildings includes housing and buildings for public use. For the housing, the types of development usual in France are all possible. These range from government-subsidized low-rent housing to privately financed dwellings; an effort is made to include all these types, as far as possible. In this respect the manipulation of the resale price of building sites will probably prove useful.

The buildings for public use include (1) those which remain public property and (2) those which are destined to become privately owned. In the first category are included public buildings such as schools, community centers public administration, post offices, police stations and youth clubs. The builder in this case is the collectivity (Nation, Département, City or Town), unless it concedes the construction to the Corporation (Société d'Equipe-ment). Whatever part of the cost of building which is not covered by government subsidy is borne by the city of Toulouse.

In the second category, that of buildings such as shopping centers, which are open to the public but may become private property (individual or co-ownership), the builder is generally the Société d'Equipe-ment, which obtains financing through normal procedure, and resells to commercial interests. At the present time this category of construction is expected to amount to about 12,000,000 francs.

The schedule of public buildings is as follows:

Ministry of Education

	<u>No.</u>	<u>Cost</u>	<u>National Gov't</u>		<u>City</u>
	(in thousands of francs)		Rate	Amount	
27- class primary school	14	39,200	Fixed	27,356	11,844
5-class separate kindergarten	12	7,200	Fixed	5,208	1,992
34-classroom secondary school	6	35,568	76.8%	27,316	8,252
Technical and industrial High School	1	11,150	80.3%	8,954	2,196
High School for classic and modern studies with girls' boarding facilities	1	10,541	83.3%	8,781	1,760

	<u>No.</u>	<u>Cost</u>	<u>National Gov't</u>		<u>City</u>
	(in thousands of francs)		Rate	Amount	
Girls' technical High School	1	3,159	83.8%	2,647	512
School for classic and modern studies with boys' boarding facilities	1	8,680	80.1%	6,953	1,727
Girls' commercial High School with boarding facilities	1	5,165	83.1%	4,292	873
		<u>120,663</u>		<u>91,507</u>	<u>29,156</u>

## National Department for Youth and Sports

	<u>No.</u>	<u>Cost</u>	<u>National Gov't</u>		<u>City</u>
			Rate	Amount	
Indoor sport center	1	1,700	45%	765	935
Multiple sport stadium	3	2,400	45%	1,080	1,320
Competition areas	2	8,800	45%	360	440
Indoor play areas 30/20m	16	480	50%	240	240
Practice grounds, isolated	2	360	45%	162	198
Indoor play areas 20/11m	24	240	50%	120	120
Play grounds 40/20m	57	6,270	50%	3,135	3,135
40/20 gymnasia	8	3,280	50%	1,640	1,640
Track	9	900	50%	450	450
25m pool	2	3,600	45%	1,620	1,980
Outdoor olympic pool	1	1,150	45%	518	633
Indoor olympic pool	1	3,200	45%	1,440	1,760
Main youth center	1	1,500	45%	675	825
25m pool in open air	1	600	45%	270	330
Playgrounds	2	p.m.		p.m.	p.m.
Neighborhood youth houses	5	4,000	45%	1,800	2,200

## Ministry of Cultural Affairs

	<u>No.</u>	<u>Cost</u>	<u>National Gov't</u>		<u>City</u>
			Rate	Amount	
Cultural center	1	4,000	50%	2,000	2,000

## Ministry of Health

	<u>No.</u>	<u>Cost</u>	<u>Subsidies asked</u>		<u>City</u>	<u>Additional Funds</u>
			Rate	Amount		
Multi-use dispensaries	2	2,000	30%	600	—	Department
Nurseries	4	1,200	50%	600	600	
Nursing centers (in conjunction with a social aid clinic)	5	250	—	—	125	Social Security funds
Social aid clinic including child care facilities	5	3,750	40%	1,500	750	Family Allowance funds
Old people's homes	6	11,700	20%	2,340	—	Social Security funds + long term loans
Maternity hospital 40 rooms	1	1,200	40%	480	—	Social Security funds + Department

## Miscellaneous Equipment and Administratif Services

	<u>No.</u>	<u>Cost</u>	<u>Subsidy</u>	<u>City</u>	<u>Additional Funds</u>
Fire station with housing 85 to 100	1	6,000	1,500	4,500	
Social security, payment office	2	to be estimated	—	—	Social Security
Police station	1	100	100	—	
Tax and treasury offices	2	2,400	2,400	—	
Post office	3	3,700	3,700	—	
Telephone exchange	1	2,000	1,750	—	

The over-all cost of the Mirail project is presently estimated as follows:

	<u>Total</u>	<u>State</u>	<u>City of Toulouse</u>	<u>Private Financing</u>
Basic infrastructure	461,492,000	51,424,000	80,880,000	319,188,000
Public buildings	192,717,000	128,700,000	64,017,000	
<u>Housing</u>	<u>1,000,000,000</u>			<u>1,000,000,000</u>
	<u>1,654,209,000</u>	<u>180,124,000</u>	<u>144,897,000</u>	<u>1,329,188,000</u>

It should be understood that these figures will be subject to considerable modification as the development proceeds.

## IV. PLAN DEVELOPMENT

Within this administrative and financial framework the city of Toulouse organized, in 1961, an urban design competition for the site under consideration. The competition was open to all architects registered in France. After the first stage, which was limited to diagrams of the proposed planning principles, ten firms were invited to prepare proposals for the development of the entire site to a scale of 1/2000.

These were assessed by a jury including members of the Toulouse municipal council, the Ministries of construction, finances, and the interior, and representatives of the town planning board and the society of architects. The



city council was in the majority and the mayor presided. From these ten proposals, this jury chose the scheme which is currently being developed.

This plan is based on three primary considerations: (1) creation of an harmonious human environment; (2) establishment of an organic structuring principle for urban habitat; and (3) possibility of future growth and change.

It is clear to us that in dealing with such a vast development (25,000 dwellings on 2,000 acres), the principles of architectural composition or massing alone would not suffice. We sought to discover and establish an organic structuring system which would give order to this mass of housing and ancillaries while remaining sufficiently flexible to provide for growth and change. We hoped to avoid, as far as possible, both static composition and abstract zoning neither of which seemed to us a valid basis for a living complex.

We began by considering what the city is: a collectivity of individuals, organized for mutual benefit. The structure of cities is human activity; their life is the sum of the human contacts and exchanges within them. It seemed reasonable, then, to try to analyse these activities, the components of cities, to know them and then to organize them into a coherent system.

We assume two families of components: the dwellings and those activities which serve them, either directly or indirectly. The use of such an approach, we felt, would enable us to bring order and clarity to the complex through the definition of its components. We also hoped that the synthesis which would follow this ordering process would benefit from the specification of the parts and would retain those qualities which we attributed to the components in the analysis. We expect, for instance, that some of the ancillaries in a city may change more rapidly than the dwellings which they serve. Others may change more slowly. Our planning is intended to make possible both the long and the short cycle changes.

The site, which was chosen before the urban design competition was organized, and has been acquired partially through direct buying, and partially through the exercise of the right of eminent domain, consists of two plains separated by a thirty foot bluff running north and south. This embankment and a small stream running from west to east through the upper (western) terrace determine a natural linear park with three branches, retained as part of the urban structure. The stream will feed an artificial lake in the center of the scheme, bordering the regional administrative and cultural center.

The basic structure of the scheme is a linear distribution of different activities to form a stem which generates and serves the dwellings. The

stem contains commercial, cultural and social activities distributed along a pedestrian way. Traffic is completely segregated. Parking and service courts and roads near the stem are sunken so as to leave the pedestrian as free as possible in his movements. The dwelling type which is "plugged in" to this stem is organized around continuous horizontal circulation at convenient levels. These "streets in the sky" link the elevators which originate at entrance points. This system enables us to localize automobile access and parking and to establish an order in the system of circulation, in which the pedestrian traffic takes precedence.

The linear center follows the natural existing green way, and is laid out so as to serve the whole scheme insofar as it may be determined at this time. It will of course adapt itself to new conditions as it is carried into effect. It will react to the conditions which it creates and, in a continuous feed-back process it will, ideally, change constantly. This center contains shops, markets, social and cultural centers, places of entertainment and of worship, parks and gardens, etc. It serves the high-density dwellings which are plugged into it and the schools which are grouped at points along it. It is served by roads and garages where necessary. The automobile is considered as a servant and care is taken to establish the precedence of the pedestrian, for whom the linear center is designed. We felt it essential to make a habitat in which the use of the private car remains possible but never becomes obligatory.

The high-density housing along this spine is in continuous buildings of six, ten or fourteen stories, with ways through at various levels. All flats have double orientation and all have outdoor space, either balcony or loggia. The maximum distance to the nearest elevator is about 250 feet. Approximately seventy-five per cent of all dwellings are grouped along this high-density spine. The remaining dwellings are in terraces and three- or four-story blocks in typical low-density infill patterns.

A certain amount of light industry has been provided for along the southwest of the site. Existing heavy industry lies due north about three miles and south-east about one mile. It is hoped to link Le Mirail to these and to the centre of Toulouse by a rail transport loop.

A regional administrative, commercial and cultural center to serve a radius of around 125 miles is provided in the center of the scheme. It will contain offices and public buildings, cinemas and theatres, a museum, a shopping center, exhibition space and meeting halls.

By its nature the plan required the invention of new administrative and legal tools. It is an attempt to base planning on synthesis and association, following from analysis and dissociation. We argue that the relationships

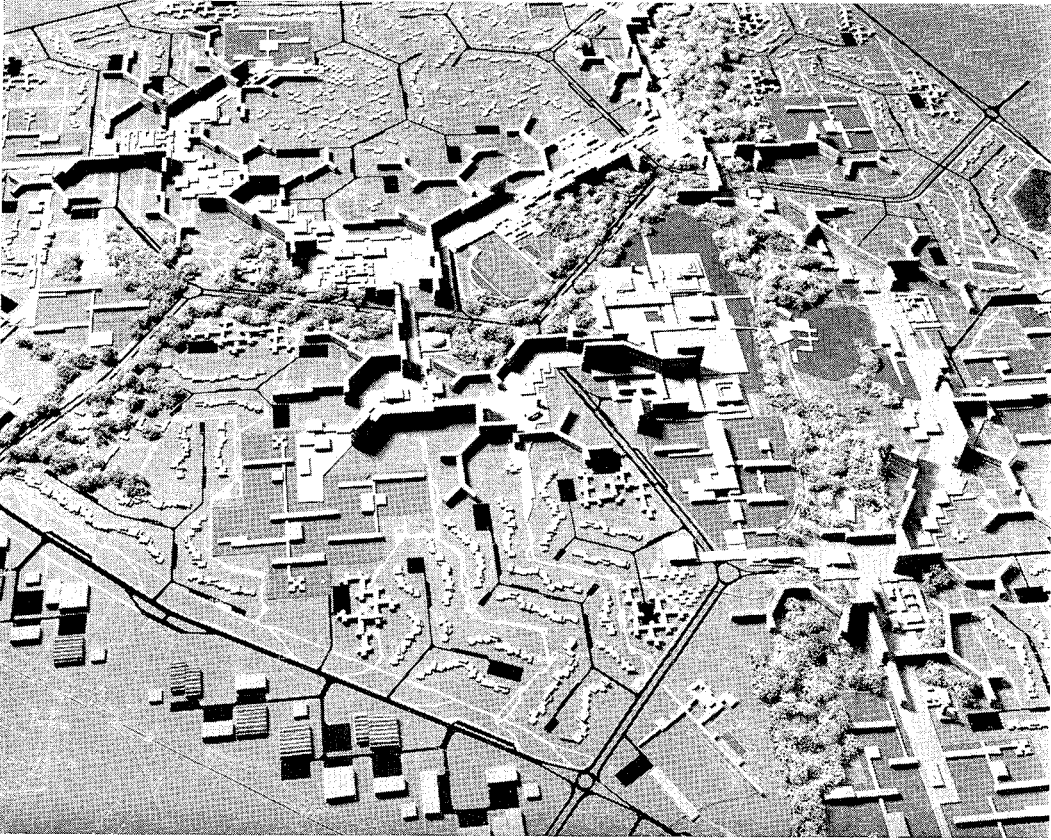
between different activities are as important as the activities themselves or as their distinguishing features, and therefore that the areas between various zones are essential, while the zoning itself is of secondary importance. In fact, we have tried to eliminate zoning as a planning technique in favor of an approach which, being more synthetic, more organic, more reactive, would also be more real.

#### V. SOME THOUGHTS ON THE PLAN

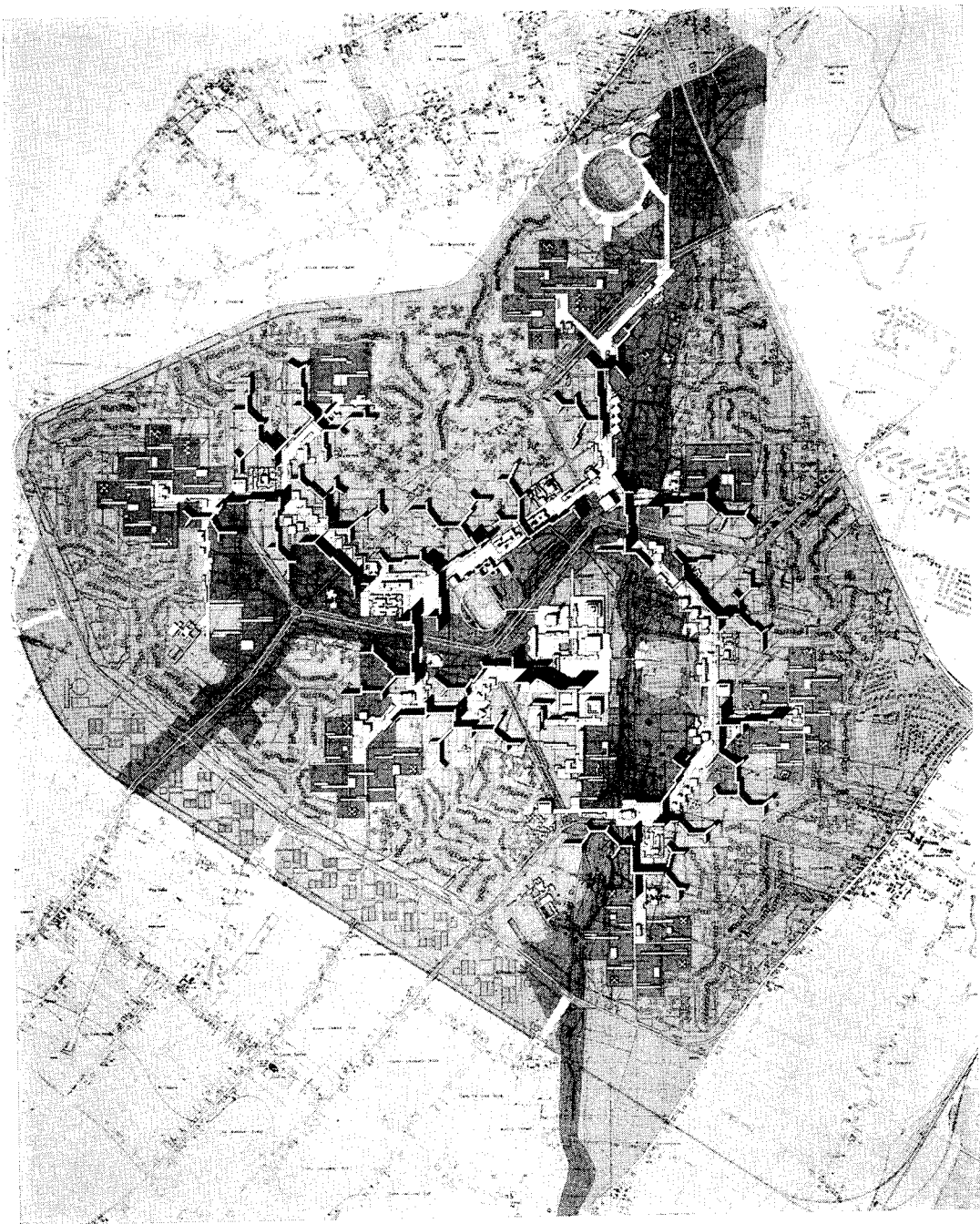
If we consider that the mixture of uses takes place not in two, but in three and eventually in four dimensions, the need for appropriate new legal equipment becomes evident. As architects and planners are coming to abandon those compositional techniques which have proved unadaptable to present situations, so must lawyers and jurists revise their vocabularies and review the ways and means at their disposal, in order to participate effectively in the building of a new environment which is the natural habitat of society in the twentieth century.

Architects and planners are beginning to discover the new world, in which space is continuous and space and time are linked. The two-dimensional representation of the plan of Toulouse-Le Mirail conveys something of its four-dimensional potential. But if this plan should be frozen, through the application of either zoning or property rights in their present two-dimensional state, it would become only a design, a meaningless motif on the suburban tissue.

In such a plan as this, we must assume that the two-dimensional representation is more of a constraint than a useful tool. It will, of necessity, be always out of date. Since the intention of the plan is to incorporate the time dimension as well as the space dimensions, the plan is in a constant state of change, of becoming rather than being. We feel that this state of change is inevitable in planning. Indeed, the difference with the past is simply that now change is perceptible and can be considered as positive whereas before it was imperceptible and was considered as negative.



Three-dimensional model of Toulouse le Mirail.



Plan of Proposed Development. The linear center of activities, here shown in white, follows approximately the linear parks previously existing on the site.