

From Urban Zoning to Network Cities: a new accessibility concept for Recife (Brazil)

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ABSTRACT: The present paper describes the new urban planning and infrastructure policy for the city of Recife that has been adopted by the new administration. Initially, the current urbanization and transportation demand pattern are critically appraised. Hereby, the limits of the current zoning system and also of the transportation policy are pointed out. Following this presentation, the values and objectives of the new administration are discussed. Consequently, its new transportation and infrastructure investment strategy are exposed, which foresees an integrated approach between transit and real estate investment. Conclusively, the pilot line is described, and also the *modus operandi* of the strategy, which includes a participatory decision process

RESUME : cet exposé présente la nouvelle politique de planification urbaine et d'infrastructure, adoptée pour la ville de Recife par sa nouvelle administration. Tout d'abord, l'urbanisation actuelle et le schéma de demande de transport feront l'objet d'un examen critique. En même temps, les limites du système actuel de zonage et de la politique de transport sont mis en évidence. A la suite de cet examen, sont discutés les valeurs et les objectifs de la nouvelle administration. Cela suppose une présentation de sa stratégie en matière de transport et d'investissement dans les infrastructures, qui prévoit une approche intégrée du transport et de l'investissement immobilier. En conclusion est décrite la ligne maîtresse de cette politique, ainsi que le *modus operandi* de sa stratégie, qui s'appuie sur un processus participatif.

1. RECIFE: THE RECENT TRANSFORMATION PROCESS OF THE CITY

The city of Recife is situated on the Northeastern coast of Brazil and is the capital city of the State of Pernambuco. Its Metropolitan Region is composed by 14 municipalities and bears a population of 2.8 millions inhabitants (Census of 2001). The core municipality, the City of Recife, has a hegemonic role in this Region: even though having only 8.88% of its surface, it concentrates 43% of the population (1,4 millions) and 60% of its Inland Product.

Recife has consolidated itself as an important centre for commercial and service activities, which employ, respectively, 56% and 18% of the population (data from 1997). The respective percentage for the industry sector, which is, however, concentrated in the Southern area of the Region, in the surroundings of the new Port of Suape, is 14%. Recife is also an outstanding culture and tourism centre. The economic trend for the next years is the increasing importance of new dynamic industries such as software, medical centres, advocacy, research and education. But also the culture, tourism and entertainment will play a major role, too.

On the other side, a spatial decentralization process of the economic activities may be observed, as

these activities leave the central micro-region (cities of Recife, Olinda and Jaboatão) and spread out to the South (Port of Suape) and to the North (Itamaracá Island). The metropolitan character of Recife becomes clear by its radial-circular structure, whereby the main road axes start from the City centre and its Port and gain the peripheral towns. As a result, in Recife, dynamic industries stay together with extreme poverty, social inequalities and lack of infrastructure mainly in the periphery.

1 THE CRISIS OF THE URBAN INFRASTRUCTURE NETWORKS AND OF THE TRANSPORT SYSTEM

A recent research on the most acute problems that worry the population, the criminality and unemployment have been pointed out as the main issues, followed by the precarious state of some infrastructure, as water, sewage and ways. The main street network of Recife, Olinda and Jaboatão counts 419 km, from which 213 km are considered to belong to the main arterial system; other 88 km are classified as secondary streets, and 177 km as collector streets.

The main failures of this street system are: the lack of connectivity in some areas, lack of continuity of some stretches, inadequacy of the geometry to the

respective actual circulatory functions; and, obviously, the dysfunctional competition between transit services and individual transport for a insufficient road space. The main arterial corridors present a high level of congestion during the peak hours, whereby the mean speed decreases to values below 15 kph.

The Transportation Master Plan of the Year 2000 (Prefeitura da Cidade do Recife & URB & DE-TRAN, 2000) has focused 321 of the 499 intersections with streetlights. Within this subgroup, 98 intersection approaches are already saturated, presenting a D or even an E service level (the last case applies to 69 approaches). What has made things worsen is the fact that the land use and occupation legislation has not been able to establish a minimal control and compatibility between land use/occupation and the road system. Too often heavy traffic generators have been newly built directly on the already saturated corridors.

With respect to public transport, different kinds of operators and systems co-exist, as for example railways, buses and even vans (these are often called “alternative transit system”). The modal split presents following figures (EMTU 1997): 46% of the trips are made by public transport (38% by buses, 2% by railways, 4% by the “alternative” system, 2% by contracted transport); and 31% use motorized individual transport (27% for private car, 4% for taxi and hired cars); pedestrians come for 23%.

Thus the bus system still plays a major role in the urban journeys, and 20 private operators with 2376 vehicles supply the service. The average age of the fleet is 4 years; per day, the fleet runs 22,325 trips and 645,266 km and carries 1.194.469 passengers. This system has been increasingly been challenged by informal (“alternative”) operators which use smaller vehicles to operate a chaotic network, uncontrolled by the authorities (Prefeitura da Cidade do Recife & Companhia de Trânsito e Transporte Urbano, 2001).

An inquiry of the year 2000 has revealed the presence of 3.683 vehicles, which are active within an area that corresponds to 60% of the whole Region. Beyond these figures, the total sum of irregular vehicles is supposed to amount to 6.000 vehicles for the whole Region. Alone the counted vehicles would carry around 163.000 passengers per day (thus more than the railway system, which is responsible for 120.000 passengers per day); extending these results to the remaining not scrutinized area (40%) we could speak of 272,000 passengers being carried by the informal system, which corresponds to ca. 19,4 % of the total demand served by the official bus system controlled by the EMTU/Recife (*ibid.*).

This illegal competition and the competition by individual transport as well the economic crisis have provoked a reduction of the patronage in the official

transit system. Whereas in 1990 the average number of passengers carried by a bus in a day was around 1000, in 2001, this same figure has dropped to 514, what means a reduction of 50%. This reduction has led to an accumulated deficit of the official bus system (EMTU controlled system) which amounts today millions of reais (ca. 40 millions US\$).

2 ADVANTAGES AND LIMITATIONS OF THE URBAN ZONING MODEL

The present configuration of the transportation system and also of the land use in Recife is a result of an outstanding urban planning effort that had occurred during the seventies. At that time, the metropolitan planning authority had proposed following consolidation nuclei for the metropolitan area:

a) *The central nucleus*, grouping Olinda, Recife and Jaboatão, should consolidate the activities of the tertiary sector.

b) *The Northern nucleus* would integrate the newly urbanized areas of Paulista and Igarassu and their industrial districts along the BR-101 road.

c) *The Western nucleus* would integrate, along the BR-232 and BR-408 roads, the towns of Moreno, Jaboatão, São Lourenço and Camaragibe, by means of important infrastructure investments as the new Coach Terminal (inaugurated in 1997), the metropolitan railway (inaugurated in 1985), the Freight Centre and a new Administrative Centre;

d) *The Southern nucleus*, running along the railway line which links Recife to Cabo and having as its dynamic centre the new port complex of Suape.

In the year of 1982, a new Transportation Master Plan proposed the setting up of an Integrated Structural System (SEI), which should link those nuclei and be composed by the main trunks leading to the South (railway line) and to the North (trolley line) and also by the main collector streets served by buses. At that time, these propositions gave positive impulses, as they set up a coherent transportation system and were based on a long-term planning for the whole Metropolitan Region.

However, as the years went by, they presented some limitations. Firstly, this zone based planning model reflected an authoritarian and centralized approach, which was typical to that era, dominated by a self-sufficient technocracy. This technocracy believed to be able to tackle with the economic and social problems of the city simply by adopting plans which were technically coherent and were put into practice mainly by means of heavy infrastructure investments and, above all, without any discussion and negotiation procedure even with the main players of the city. And as the mayor of the Capital cities were appointed by the State Governors, the capital administrations had nothing to add but to accept the plans imposed by the State.

Equally, this zoning model tried to induct, again in an authoritarian way, a determined urban growth pattern, establishing the location of the different industries and land uses, without any regard to the actual dynamism of the city, which transforms itself at a speed which may hardly be foreseen in the plans conceived within the walls of the administration without taking into account the interests of the players.

3 IN THE SEARCH FOR A NEW, DEMOCRATIC AND SOCIALLY FAIR PLANNING CONCEPTION

3.1 *The new political context of the Municipality of Recife*

The election, in the year 2000, of the member of the Worker's Party and former metal worker João Paulo for Mayor of Recife has turned feasible the adoption of a new management conception, guided by the values of social solidarity and brotherhood. The main priority for the economic and cultural policies should be to integrate those groups that were always excluded from the benefits of development, into the mainstream of the development policy (Prefeitura do Recife, 2001). The strategic directives adopted by the Municipal Government and exposed in the document "The City We Want" (Prefeitura do Recife, 2001) are:

a) The public administration shall be radically democratic and supported by the popular mobilisation; this shall lead to a new government attitude, which has to be transparent, participative and based on the value of solidarity, empowering the common citizen to take part of the decisions of the Government.

b) Strengthening the role of the public spaces and to guarantee accessibility for all; this should lead to a radical modification in the priorities and investments in favour of the public spaces, of public transport and to a social housing system accessible to the poor;

c) Promotion of citizenship and struggle against exclusion and inequality.

d) Priority for school, health and sewage investments.

e) Support for creativity and popular entrepreneurship in the economic, culture, tourism, entertainment and sport policies.

With respect to more specific urban policies, following directives may be listed:

a) Restoration and upgrading of public spaces by means of control instruments;

b) Priority to the areas where the poor live;

c) Protection of the natural and built environment;

d) Addition of value for traditional areas;

e) Strengthening of leading industries (commerce and service industries in the health, education, enter-

tainment, consultancy and tourism, by means of enhancing accessibility).

Integrated Transport and Industrial Investment Project: A new funding model on the basis of public-private partnerships

As it can be followed from the directives exposed above, the new administration has firmly decided to give priority to public transportation, and this shall come into reality by means of measures which produce a high impact in the transportation system as well in the whole urban space structure and economy of the City of Recife and of its Metropolitan Region. For this aim, a mass transit project is under preparation by a joint team composed by researchers of the Federal University of Recife and by officials of the City Administration, which makes use of the Integrated Project Strategy; the new system shall link the southern border to Jaboatão to Olinda to the North, passing by the major ring boulevard Av. Agamenon Magalhães (Fig. 1).

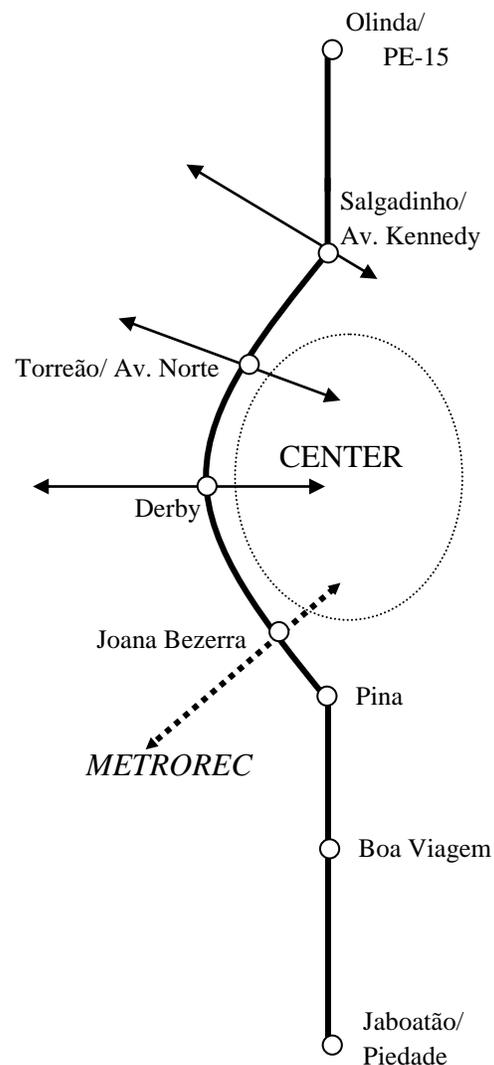


Figure 1. The proposed mass transit axis.

The Integrated Project Concept was developed by the team of an academic research network, the RESET (Rede de Estudos de Engenharia e Sócio-Econômicos de Transportes), as a product of a for-

mer project contracted by the National Development Bank (BNDES — Banco Nacional de Desenvolvimento Econômico e Social). The main objective of the project is to add value to public space and to democratise accessibility for the whole population, so that everybody may benefit from the city. On the other side, as the selected axis passes through an area which contains many potential assets and opportunities for the economic development, the integrated project shall play a major role in turning effective these potentials and assets.

The Integrated Investment Project mechanism foresees combined investment in mass transit system and in a set of assets located in the immediate neighbourhood of the system, with the aim of producing financial synergies between the transit system and those side businesses; moreover, these side businesses shall produce additional patronage to the transit system. One main feature of the project is the intensive use of public-private partnerships, which shall be co-ordinated by an entity (Promoting Entity); this entity, to be headed by the City Administration, shall also be a place of broad social participation.

The basic idea underlying this public-private partnership model is the linkage between the transportation business and the side businesses in its fringe area. These side businesses, which shall include real estate, commercial, culture and entertainment centres, produce an additional patronage to the transit system. Obviously, this idea is not new, several private Japanese suburban railways had adopted it since the Post-war era. (Aragão, 1999).

In the case of Recife, the whole project shall comply with the directives adopted by the Municipal Administration and also by the government bodies of the Metropolitan Region for the economic and social development and for the land use; above all, the project shall contribute to the consolidation of the local and regional development poles which are already foreseen by the current programmes. The transit project itself is to be regarded as a part of the SEI-network.

The selected corridor is part of a proposed broader transit network based on the current SEI network (Fig. 2). The corridor shall supply the main growth vector of the Metropolitan Region, which has a clear South-North direction. The future lines will complement this main axis with other corridors in the East-West direction.

3.2 The participatory process

The Figure 3 synthesises the organisational model of the public-private partnership. A major emphasis is put here in the participation process, which shall integrate the different relevant players in the society as well in the Public Administration. This process will deal with the definition of the main features of

the project and also of the rules of the game, with a special regard to the bidding and concession procedure. Thus the proposed procedure shall differ from many current public-private partnerships, where most of the rules are negotiated between the public and the private actors behind closed doors (Finnerty 1998). This postulate in favour of a broad participation has not only a philosophical and political nature; moreover it is a direct measure for controlling the political risks of the project, as many divergent social, economic and political interests may be affected by it.

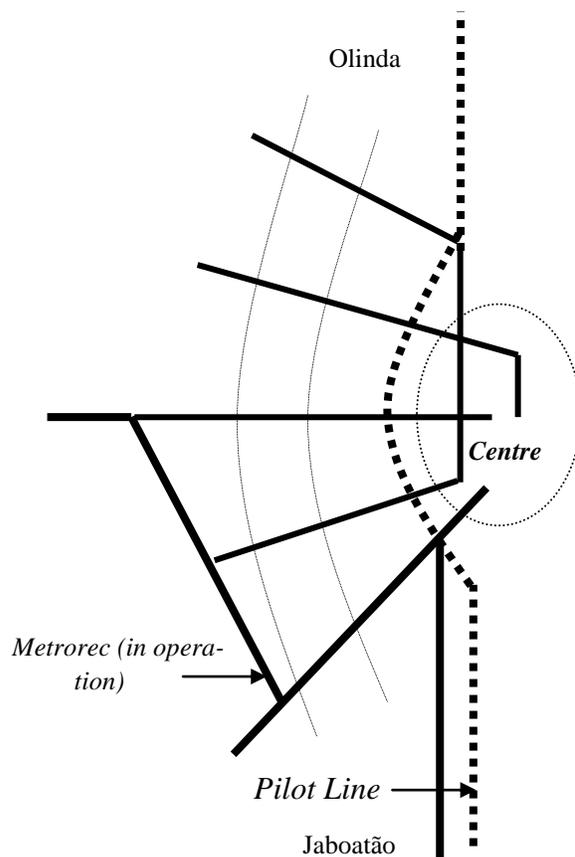


Figure 2. The proposed mass transit network for the Metropolitan Region of Recife, within the current SEI framework.

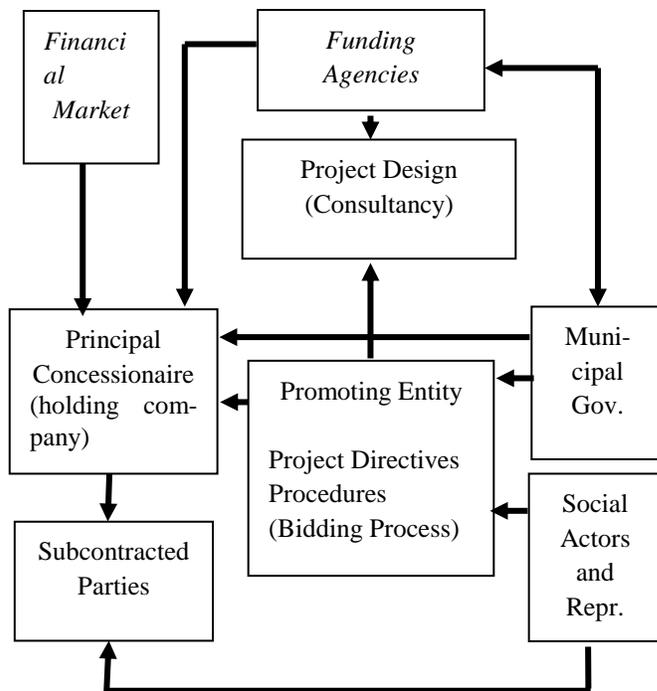


Figure 3. The organisational model of the integrated investment project

Following this model, the leadership of the whole project would belong to the Promoting Entity, which would be the main locus of the participatory process. The Public Administration would preside this entity and would carry out the administrative regulatory and contract procedures established by the entity. A first contract procedure would be celebrated between the Public Administration and the designer of the project, a function that should be typically carried out by a consultancy firm.

Once the project is designed, the next step would be to carry out the major bidding procedure for contracting the concessionaire. This one would take over the whole “package” of businesses and would be entitled to the respective rights, included to sub-contract the execution of some of them. The main concessionaire would establish the contracts with the financial market and also with the funding agencies; these last would also firm contracts with the Public Administration in order to establish collateral guarantees.

4 CONCLUSIONS

We have discussed in this contribution a new planning and investment strategy for mass transit system that is presently adopted in Recife. This city has revealed the limitation of traditional transportation and urban policies that give priority to individual transportation. The new strategy would be based on the integration between the infrastructure investments and the broader urban renewal policy for the influenced area, with the aim to produce synergies between real estate and other side business investments and transit investment.

Obviously, the attempt to introduce this new logic will be confronted with different cultural and political barriers, such as the social prestige of individual transport, the trend of the private industry to simply appropriate the benefits of the public sector without offering any counterpart effort, as well the tradition of deciding the future of the city behind closed doors, without any participation.

It is the aim of the new Administration of the City of Recife to break with these traditions. Of course, serious challenges are to be faced when the major economic and financial players are to be convinced to participate in an open and democratic process led by the Promoting Entity, and, moreover, the citizens of a city with deep social problems are to be invited

to support an ambitious transportation and urban renewal project.

That is why the present contribution has included not only the notion of integrated project and its application to the study case of Recife, but has also discussed the organisational model, which stresses the democratic character of the procedure. This is a process that is under way, albeit still in its initial steps. For the moment, the order of the day is to attract and to unite the first actors considered to be relevant. In a next future, we will be able to supply nearer conclusions on the technical, financial and political feasibility of such strategy.

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