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URBAN GROWTH AND PUBLIC TRANSPORTATION

The Trucks of Tahiti

Orstom

Each morning, the City of Papeete (1) is subject to impressive traffic jams : for many kilometres along the North-East and South-West entrances to the city, cars advance bumper to bumper and the R.D.O. <sup>with motorway</sup> (2) itself, in spite of its two separate lanes (and in the absence of grade crossings) is congested. Traffic flow problems are most evident when schools open (between 7 and 7.30 a.m.) and on rainy days. They are the result of four main causes :

- the continuous increase of the population of the city area (29 000 inhabitants in 1956, 79 000 in 1977 and most probably 90 000 in 1981) (3).
- a linear urban extension along the coastline which greatly varies according to the Commune under consideration. The Commune of Papeete, for example, lost 2 000 inhabitants between 1971 and 1977 (dropping from 25 342 to 23 453 inhabitants) while the Communes the furthest away from the Center, Faaa and Punaauia, respectively increased by 2 200 and 3 300 inhabitants (i.e. annual average growth rates of 8.4 and 12.6%).
- the concentration of activities in the Commune of Papeete to the detriment of residential zones causing one to be obliged to commute each day over important distances.

- (1) For Papeete, the term of city or agglomeration refers to the entire urban zone of which the Commune of Papeete is the Center. City growth, practically with no solution in its continuity, stretches from the valley of Papemoo on the Eastern Coast to beyond the Punaruu valley on the Western Coast. In practise, this comprises the Communes of Mahina, Arue, Pirae, Papeete, Faaa, Punaauia and Paea.
- (2) "Route de Déviation de l'Ouest" : The Western deviation road or road over the hills which doubles the circle island road over the territory of the Commune of Faaa.
- (3) The total population of the island of Tahiti was evaluated in 1977 at 97.000 inhabitants. At that same period, the population of French Polynesia was 137.400 inhabitants.

*Handwritten notes:*  
Twenty nine thousand  
Twenty nine th.  
Twenty th.

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- the impressive number of private owned cars in Tahiti : in 1979 it was esteemed (1) that there were 30.000 vehicles in circulation in Polynesia, of which only <sup>0w</sup> a thousand in the outer islands other than Tahiti, or, for the latter island an average of one vehicle for three persons (2). ~~As approximately 60% of these families live in this agglomeration, one can estimate that 23.000 vehicles circulate between Paea and Mahina, i.e. on 35km of an axis which is only doubled in the three Communes of Paea, Papeete and Pirae.~~ Traffic has correlatively followed a very rapid increase, since it has been estimated that it doubled between 1971 and 1979 (3).

A consequence of this increase in traffic, parking has become increasingly difficult and the obstruction down-town is on the increase, all the more so since the automobilists feel reluctant to use spaces with parking meters or payable parking lots.

Under such conditions, one may ask if public transportation facilities are susceptible of affording a satisfactory answer to persons who must travel each day for their daily activities. In this perspective, it is interesting to examine what the organization of public transportation in Tahiti consists in, what equipment is used, how the businesses operate and what are the problems posed by this means of transportation.

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- (1) - Chamber of Commerce and Industry, bulletin N°9, February 1979.
- (2) - If one takes note that according to the 1977 census, the average size of a family was 5.24 persons, one arrives at the rather surprising average of almost two cars per family, which would be one of the highest automobile motorization rates of the world.
- (3) - "We have progressed from 15 000 vehicules per day and per direction at the main cutting point (kilometre 0) to 30.000 vehicles in 1979 : in other words a progression of 9% per annum." (CETE : Papeete, preliminary study of traffic lane V 1, June 1980.)

## I - ORGANIZATION OF PUBLIC TRANSPORTATION

In 1977 public transportation on the island of Tahiti was reorganized under the form of a "Transportation Plan". This divides the island into three main sectors : the city sector (~~54 lines~~) which corresponds with the Communes of Papeete, Pirae and Faaa, the West Coast (~~97 lines~~) and the East Coast (~~38 lines~~). For each of these sectors, it establishes a list of authorized carrying companies, the <sup>routes</sup> itineraries they must follow, the frequency of daily trips and capacity of the vehicules. The plan also gives the list of carrying companies providing occasional services : touristic circuits, associations, school transportation.

A Territorial Technical Transportation Committee ("C.T.T.T.") has been established : this is a consultative agency presided over by a government councillor and composed of 6 representatives from various administrative departments (Public Works, Justice, Police, Gendarmerie, Economic Affairs, Tourist Department), two members of the Territorial Assembly, a representative of the public transportation users and four representatives of the carrying companies. It meets four or five times per year and its role consists in updating the transportation plan, establishing tariffs and preparing regulations ; it also fills the role of a disciplinary commission.

The carriers have regrouped themselves into several competing unions, five in all, several of which have ties with local political parties. They therefore loose any efficiency they may have and several company managers complain of the undemocratic operation of these associations. Moreover their rivalry deprives the carriers of efficient representation in regards to the Public Authorities.

## 2 - THE EQUIPMENT USED

*Ph. V.*  
The vehicles which serve for passenger transportation along the regular lines are the "trucks"<sup>\*</sup> (1). These are in fact trucks on <sup>lorries</sup>

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(1) - Only the travel agencies that organize circuits for tourists have airconditioned pullman type buses. Several Communes have school buses.

the chassis of which a superstructure in wood has been set up. In vivid colors, overflowing with ear-deafening "disco" music, they are part of the touristical attractions of the island ~~and one of its main elements~~. Apart from this folkloric aspect, they render incontestable services in providing transportation for many people who do not have their own means of locomotion. They originally were intended to be a practical means for the transportation of passengers and merchandize from the "districts" (1) to the city, as their name in Tahitian well points out " Te pere'o mataeina'a ("the car of the district") // These vehicles therefore are more solid than comfortable, the passenger cabin in wood being more resistant to rust than that of the classic metal bus. Most of the time this cabin is built by a carpenter in Pirae but the owner can easily carry out repairs himself afterwards. A large opening at the rear allows passengers to climb on and off. // They take place on long wooden benches (sometimes with padding) which face each other on each side. Passengers are therefore able to talk, to exchange news and cans of beer or cigarettes often transform this means of transportation into a very lively and festive place, all the more so if the distance to be travelled is long. //

Apart from their excellent adaptation to mixed transportation (passengers and merchandise) and their resistance, the main reason for the choice of this type of vehicule is their cost which is 2.5 to 3 times less than that of a bus of identical capacity.

Each truck is subject to a bi-annual technical check by the Traffic Department which delivers a " purple card " which is indispensable to ensure the service. Their average age is 6 years (but 15% of them are over 10 years old). Their capacity varies according to the areas covered; on the city routes the vehicles have on an average 20 seats; for the Eastern and Western Coasts, the trucks which are used the most have between 20 to 34 places but a fourth of the number are over 35 places. The renewal of these vehicles takes place rather slowly and one notes an important traffic in the purchase and sale of used trucks ~~which is proof of the renewal of the business concerns~~.

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(1) - Name given in Tahiti to the rural zones.

The breakdown for vehicles by sector is as follows :  
*Urban Sect.*

City Routes : 73 trucks for 62 carrying companies  
East Coast : 57 " " 42 " "  
West Coast : 133 " " 93 " "

In spite of this sector by sector breakdown, it is hard to separate city traffic from the whole as all routes, except for five or six, terminate at the central marketplace in Papeete and traffic in general is concentrated around the city agglomeration.

### 3 - The CARRYING COMPANIES

Regular public transportation on the island of Tahiti in 1980 *had seventy eight* was ensured for by 178 carrying companies. Amongst these, 130 (or 73%) owned only one vehicle, 30 owned two and 18 had three (1). These are therefore small companies most often owned by one person alone who drives his/her own truck for amongst these companies; one fourth are headed by women, some of whom are evidently figureheads for a man who is either a government employee or works for a local collectivity ( though the same applies for women with other jobs who nevertheless manage the company which is in the name of their husbands or fathers ). In general, these persons are fairly young (41 years old for every company out of five in which an investigation was carried out) and who opened this activity on their own after various other professions with a good number of them having been employed as drivers before setting up their own business. Besides operating a truck they often have a secondary activity in business or agriculture and their husband or wife is often also a wage-earner.

The small size of these companies makes one question their profitability. of course this is in part due from the regulations which limit the number of trucks. But one remains perplexed when confronted with the contradictory findings which can be made about

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(1) - Existing regulations limit the number of trucks to a total of 300 for the island and three per company (those who had more than this number in 1977 were able to preserve them).

them : on the one hand a long "waiting list" exists of candidates who wish to operate a line ; on the other hand, in the space of three years from 1977 to 1980, 27% of lines changed owners. If one deducts companies which changed lines while maintaining their activity, one can estimate that one company out of five went out of business in the city sector, one out of four on the East Coast and one out of three on the West Coast. There exists therefore a rather remarkable "waste" factor.

The succinct operating account sheets which have been established (a posteriori) show that the profits, in fact, do not appear on the whole to be considerable. Amongst the highest figures a little less than half only of the <sup>enterprises</sup> ~~companies~~ appear to have made profits higher than the SMIG (1). This result however should be tempered by two remarks : the true amortization of the equipment is in fact accomplished over a longer period than that which we have retained (4 years) and most of the carriers benefit from supplementary cash entries due to school busing which has not been taken account of in these balance sheets.

The balance sheets are satisfactory, in general when the companies possess several vehicles and when the owner is more or less a mechanic himself and therefore able to carry out maintenance and usual repairs. But this is often done to the detriment of the drivers. The latter are rarely wage-earner (<sup>less than 10% of</sup> ~~3 cases encountered during the investigation on a total of 29 companies~~). In the other cases, either the owners and their drivers split the profits and maintenance expenses in half (important repairs remaining at the expense of the owner), or, and this is the most frequent case, the driver hires the truck from the owner (for 10000 to 25000 Francs per week<sup>\*</sup>). In all cases, the drivers have high working hours, either because they must pay back the loan they have made if they are bus owners, or to pay their employers if they rent the vehicle, hours which can total 12 a day (with however a fairly long pause in the middle of the day). Moreover, they complain of an almost total absence of social security coverage.

*maximally  
400 Fr. 250  
15 1/2 per week*

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(1) S.M.I.G. - Minimum guaranteed interprofessional salary.-

Apart from some cases of spectacular success, the average case therefore appears to be one of a rather feeble performance, subject to the hazards of an accident, a serious breakdown or illness. In general, no serious accounting exists which could allow the operator to determine precisely how his business is operating. If, in spite of everything, many candidats press forward for this profession, one can find the explanation for this in the fact that there exists a job crise<sup>s</sup> in Tahiti after the "fat years" of the C.E.P. (1), and in the attractiveness of a profession which allows one, for a relatively low capital investment (if one buys a used truck) to become self-employed.

#### 4 - PROBLEMS ENCOUNTERED

In all, it is something of a wager to have a public transportation service operate with such a number of companies involved. The problem is also aggravated by the fact that the Papeete agglomeration is divided into seven different communes which often have divergent interests and it is for the least difficult to have the various municipal officials work together.

It would not however be indicated to replace the present system by a sole company. The service would no doubt be better cared for but apart from the higher cost to the collectivity, this would lead to the disappearance of companies which at least allow a certain number of Polynesians to learn how to run businesses. However organizational improvement is necessary to allow for more complete and regular service to all suburbs of the city; improved control must also be ensured for the less profitable routes (in this regard, it would no doubt be wise to allow a certain number of companies to have more than 3 vehicles if they undertake to serve suburbs which are not presently well cared for). Likewise, improvements can be made in the area of passenger safety (there is no protection at the present time at the rear door and one pays for his fare by coming around the vehicle and up to the driver's cabin by walking in the traffic) and comfort

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(1) - C.E.P. - Experimentation Center of the Pacific.

(protection against the rain, improved outfitting of vehicles).  
Finally, serious efforts should be undertaken in the training of  
the company managers (especially by courses in accounting). Another  
improvement must be carried out soon by the construction close to  
the market of a bus terminal, the vicinity of the market at the  
present time being too encumbered and not very functional. City  
transportation should also be organized in order to not be linked  
only to the central market but to allow for easy links with the  
various <sup>quartiers</sup> suburbs of the agglomeration. Failing such reforms, one  
runs the risk of seeing a further increase of individual car traffic  
and a progressive strangulation of the center of the city.

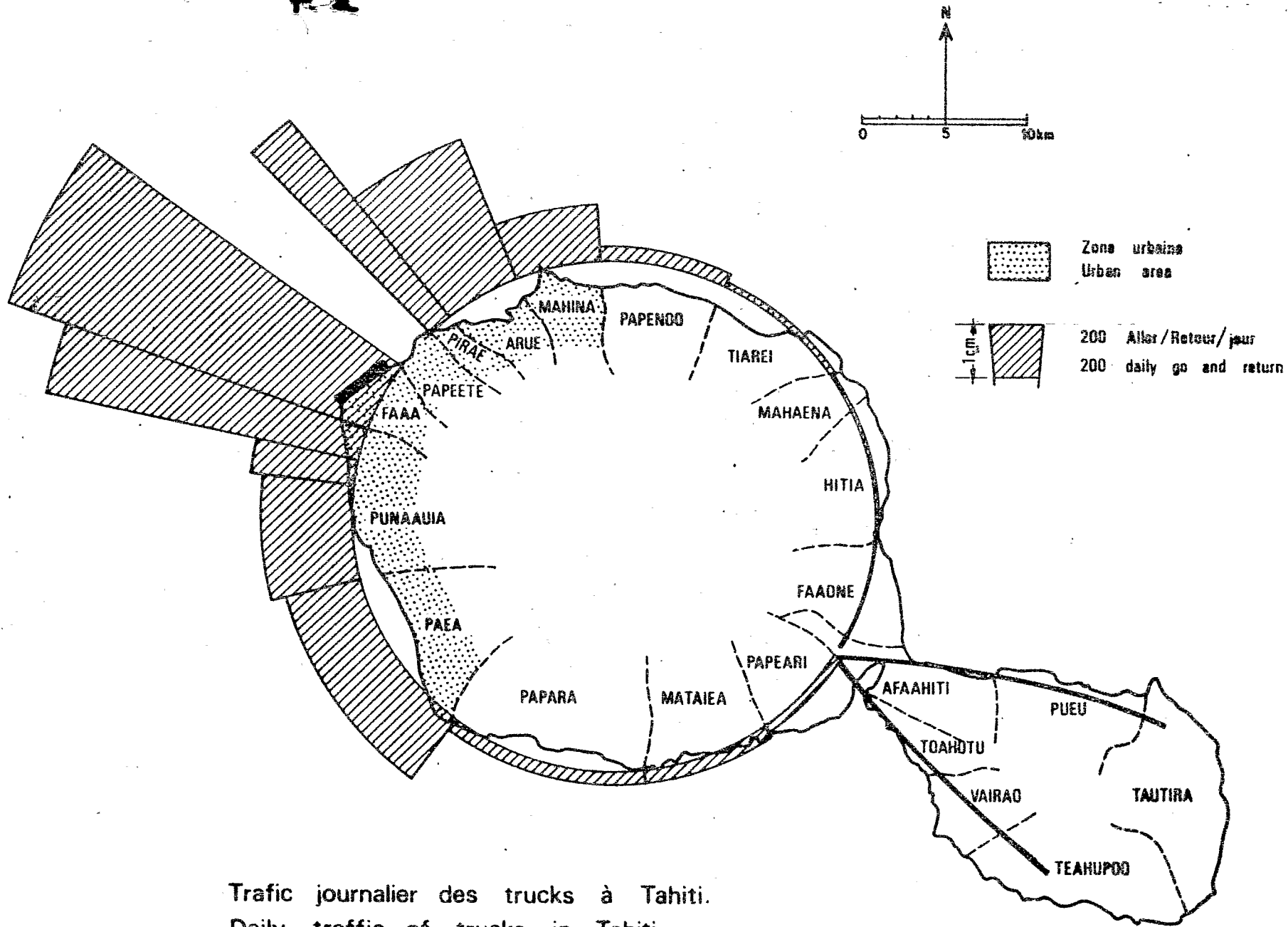
Papeete ORSTOM Center

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Photo  
2: Kemp





Trafic journalier des trucks à Tahiti.  
 Daily traffic of trucks in Tahiti.