

METHODOLOGY FOR THE STRATEGIC MANAGEMENT OF TRANSIT BASED ON ORGANIZATIONAL STRATEGIC MACROPROCESSES

Luciany Oliveira Seabra; Pastor Willy Gonzales Taco.

Universidade de Brasília - Programa de Pós-Graduação em Transportes da Universidade de Brasília, Faculdade de Tecnologia - Anexo SG-12, 1º andar, Campus Universitário Darcy Ribeiro - Asa Norte - C E P - 70910 - 900, Brasília - DF / Brasil. Fone/Fax: + 55 (61) 31070977.

lucianyseabra@yahoo.com.br; pwgtaco@gmail.com

ABSTRACT

This paper presents a methodology for strategic management of transit based on organizational strategic macroprocesses. The Evaluation of an specific transit agency, responsible for transit system management of Manaus City - AM, attempted to point out reference values for brazilian cities general context. This methodology proved to be an extremely useful management tool on institutional strengthening for transit management agencies.

Keywords: strategic management, management processes, macroprocesses, transit management agencies.

INTRODUCTION

Brazilian transit public sector (TPU) remains in a crisis since 1990 until today. The crisis has been evidenced by the passenger demand lose, mainly those from big cities bus services (ANTP, 1999, NTU, 2004; FIPE, 2010). The crisis is maintained by a vicious circle, result of factors such as migration for individual transport, competition from smuggling, demand for greater provision of infrastructure, transit high operational costs, failure on bus transit companies operational management and a decrease on life quality. Moreover, the spoiled transit system has increased by cities sprawl, by public policies and plans that prioritize car use (Alves Jr. and Ray, 2009), the rapid growth of cities, the lack of planning, and even that cities transit management agencies are in structuring stage, that rare meets the technical, regulatory and organizational goals (Seabra, 2008). Most brazilian cities presents a precarious management level, merely ratifying services quality and prices set by operators

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entrepreneurs (Brasil, 2006). Some public managers don't even assume their minimal role in providing services, or even identify, with clarity, their roles and responsibilities (sedu, 2002, Lima, 2005).

Moreover, one of the greatest obstacles for an effective management is information asymmetry. The diversity of internal (technical manager) and external sources data (technical operators, users, other agencies, etc.) together with the lack of standardization in process and activities, have required an organizational restructuring for public transit agencies in Brazil. Above all, it is necessary to structure a minimum of transit management control services, and to design strategies for a more effective management, seeking to exercise their authority. One must also consider the importance of methods that are able to accompany dynamic needs of transit services in order to ensure appropriate service and management efficiency.

In order to obtain management efficiency it is needed to have well-designed concession contracts and a staff training, as well as management control tools to allow better performance of agencies duties (Seabra, 2008). It seems also that there is a lack of tools for managing and decision making support process that promote strategic assessments and enables institutional strengthening. Besides these tools, able to cope with internal and external pressures, it was also observed that the information asymmetry leads to a lack of standardization in process and activities.

In this context, this paper is concerned to rescue the credibility and institutional confidence for public agencies, besides society and financing institutions, to improve the effective performance of their duties, presents a methodology for strategic management of transit systems based on organizational strategic macroprocesses. Thus, following this introduction it is presented a brief conceptual description related to transit management , and then a methodological framework that incorporates a balanced strategic planning and management process for strategic management for transit agencies. In an overview, the methodology establishes reference values between the transit agencies in Brazil, seeking to perform their assignments and institutional strengthening. From these values it presents an organizational analysis, a case study for the City of Manaus, Amazonas. Ultimately it is presented some important final considerations.

MANAGEMENT OF PUBLIC URBAN TRANSPORTATION

Initially it is necessary to define the concept of management, mainly by the similarity to administration. Such words have Latin origin, Gerer and administrare. Gerer means to lead, direct, or govern and Administrare has specific application in order to manage a good (Ferreira et al., 2002). In general, the two terms have similar meanings, but the management is more comprehensive and dynamic, involving political and social dimension, the action for the transformation, globalization, participation, praxis, citizenship and autonomy (Luck, 2008).

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The management concept brings together, in a single process, the management and the strategic planning (Mintzberg, Quinn, 2001). Generally in planning all activities involving decision making are placed in a more structured or a more pragmatic view (Moritz and Pereira, 2006). In managing transit services, decisions are made according to the satisfaction of those involved in the transport service, such as users, operators and agency manager. Each agent is identified with variables that will appear in your vision, and produces relevant facts and particular purposes in almost anything that ensure the consistency of the overall social outcome (Matus, 1989).

Therefore, to obtain the overall quality of transit services is essential that each agent has its well defined goals, know their rights and obligations and learn to achieve efficiency and quality tasks or actions (Torres and Ferraz, 2001). Thus, for that, regulation provides the establishment of the general and specific rules to guide the performance of transit services (Ferraz and Torrez, 2001). In Brazil, the regulatory instrument in place is the Brazilian Federal Constitution, which establishes basic rules for public sector performance, and, in a particular way, enabling municipalities to set policies for traffic and transportation (Raia Jr., 2006).

Thus it is provided to municipalities several legal obligations, from technical, to financial and institutional means. Among all, it is pointed out that the planning and control of transit systems corresponds to the technical area, the organization of the transport system to legal area, and the organization of traffic and transport managing are to the institutional. Thus, there is a relationship between organization, planning and control, the last one being essential for efficient management structure. In Brazilian government, control is the power of supervision and correction provided by the managing agencies (DI PIETRO, 2005).

In Brazil, like some other countries, the municipal governing agencies are institutions established to manage the permissions or concessions of public transport, which are established, among other aspects such as surveillance, monitoring and control of the service. Thus, regulation of transit service is established through "concession contracts" between firms and governing bodies that require an organizational structure to perform their legal duties. The organizational structure is the ordered set of responsibilities for the agency, that enables the execution of workflows through the process until the product or service is available (Seabra, 2008).

Thus, the most appropriate structure to manage transit services should consider factors such as area and population of the municipality, the municipal government structure, volume of work to be performed, human resources and financial resources. The performance of the organizational structure depends upon the realization of process and their dependence on organizational macroprocesses. Process is a group of linked activities, which adds value and generates results in the organization in order to support their goals (Harrington, 1997). Meanwhile, the macroprocesses involve more than one function, and have significant impacts on other functions, are considered as key process.

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Therefore, the identification of key process or critical, it is important to recognize what are the essential processes to achieve the success on operations and product/service quality in order to achieve the vision, mission and strategic objectives of the company (Macario, 2001). Furthermore, the level of organizations, whether businesses or public agencies, the organization of process is an important tool management. Thus, the principal actions relating to the obligations of public authority, can be considered as Organizational Strategic Macroprocesses (OSMP).

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This methodology is to identify and describe key process identified as Organizational Strategic Macroprocesses (OSMP) and presents an organizational analysis that can be applied any brazilian cities transit agency . The deployment of this analysis, aligned with strategic elements and the satisfaction of the agents responsible for the service, enables the manager and provides conditions for decision making, to ensure the provision of adequate service for the transit services. So, it has as its main objective the institutional strengthening through the obligations of public authority, as well as the achievement of the vision, mission and strategic objectives of the managing transit agency .

Within, by a panoramic view, this study searched reference values based on the organizational management analysis of brazilian cities transit agencies, and then used in the evaluation of a specific transit agency, this from the city of Manaus, Amazonas. It is important to point out that it was considered only the information obtained from the public agencies with similar structure and characteristics, although were many specificities and peculiarities of each city or region. Moreover, the city agency or manager bureau chosen to integrate this study should be minimally staffed and / or linked to a governor sector that prescribe its functions, all well established by legal instrument. For the application of the method is essential to identify the strategic variables in the managing agency, even if incipient or rudimentary, in order to characterize transit agency properly.

In general, this methodology is divided into two phases, a global and a particular phase. In the global phase, the first step is to systematize the methodology, organizing the information that affects decision-making within transit agency, according to a extensive system of public values, such as: i) public transit service ii) legal assignments; iii) transit service officers, iv) strategic elements, v) performance index; vi) macroprocesses, vii) organizational structure and, viii) factors inherent of the structure of the agency, such as the land use planning, geography and geology, city laws, current regulatory model, sources of funding and financing institutions, the political scenario, local culture and traditions. The second step consists on identify and qualify the work process, as well the macroprocesses held in, that means, process involving more than a simple function, whose operation has significant impacts on other functions, here called Organizational Strategic Macroprocesses - OSMP. This step intend to identify and select all macroprocesses considered similar to an another, compared to all agencies, in the global view, made possible by the information structure and legal procedures of each agency. This scenario is represented by a relationships matrix. The correlation between agencies matrices represents an overview of OSMP of transit agencies studied. Thus, it is possible to show where macroprocesses are coincident and which are divergent, as logic represented in Figure 1.

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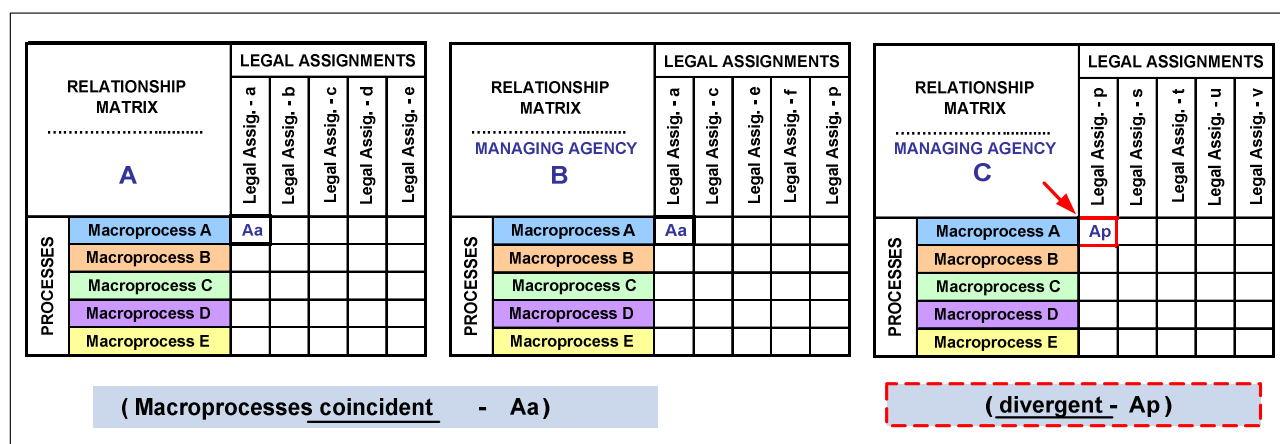


Figure 1: Logic of the influence of macroprocesses in each agency manager (exemplification).

The divergent influences were discharged and only coincidental influences were considered. The result obtained by the arithmetic mean of the coincident influences of macroprocesses in relation to all transit agencies studied was then subjected to a range of values for the ranking of OSMP. This scale considers the degree of importance of macroprocesses in a global point of view, and was defined by similar method used in previous studies (Fernandes, 2006), described in Table 1:

Table 1: Scale for the assessment of macroprocesses

0.50	Minor importance
1.00	Median importance
1.50	Great importance
2.00	Extremely important

In particular phase, the results of the overall evaluation of OSMP's are used for interpretation and evaluation of a specific transit agency, along with specific characteristics regarding the organizational structure of the agency studied. Then using the matrix of coherence (macroprocesses x legal assignments) is possible to analyze the management performance. In the agency's matrix of coherence, it is also represented the degree of compliance with legal assignments, providing a management strategic vision.. This degree of compliance is established according to four categories, differentiated by a color scale: 1) Meet assignments (red), 2) Meet assignments partially (orange) 3) Do not meet the assignments (pastel) and, 4) No relation (white), as depicted in Figure 2.

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RELATIONSHIP MATRIX		LEGAL ASSIGNMENTS								
		Legal Assig. a	Legal Assig. f	Legal Assig. k	Legal Assig. m	Legal Assig. r	Legal Assig. s	Legal Assig. t	Legal Assig. u	Legal Assig. w
PROCESS	MACROPROCESS A									
	MACROPROCESS B									
	MACROPROCESS C									
	MACROPROCESS D									
	MACROPROCESS E	-								

Figure 2 - Matrix of consistency with the degree of legal compliance.

Thus, this legal interpretation characterizes the performance of the managing agency, and allows to predict and define the composition type of the organizational structure, human resources, material and financial resources needed to perform transit services properly. Then, along this relation, it is defined a performance index for transit agencies, that is built by the number of missed assignments that the transit agency can't cope. The level of agency's performance is defined on the scale showed in Table2:

Tabela 2 – Rating scale of the managing agency

3	Unsatisfactory
2	Regular
1	Good
0	Excellent

Overall, it is possible, for decision makers at the strategic level, to guide their actions, resetting macroprocesses and / or skills, if they do not reflect the mission, vision and strategic goals established.

THE CONTEXT OF THE TRANSIT AGENCY MANAGEMENT OF THE CITY OF MANAUS, AMAZONAS

The city of Manaus, capital of Amazonas state, is located in northern Brazil (Figure 3). Like other capitals, both the transit system and the transit agency manager of Manaus, were submitted along the years to a process of institutional restructuring and regulatory framework, due to factors such as the city spatial expansion and political changes . Considering the lack of studies related to northern Brazil, this paper seeks to bring the first elements of this functional area related to transit studies. The city of Manaus reached in the last three decades (1970-2000), characteristics of a Metropolis of the Western Amazon. It is considered a regional metropolis, with the highest urban growth in the northern region of Brazil (Seabra, 2008), besides having a urban growth rate higher than the national rate.

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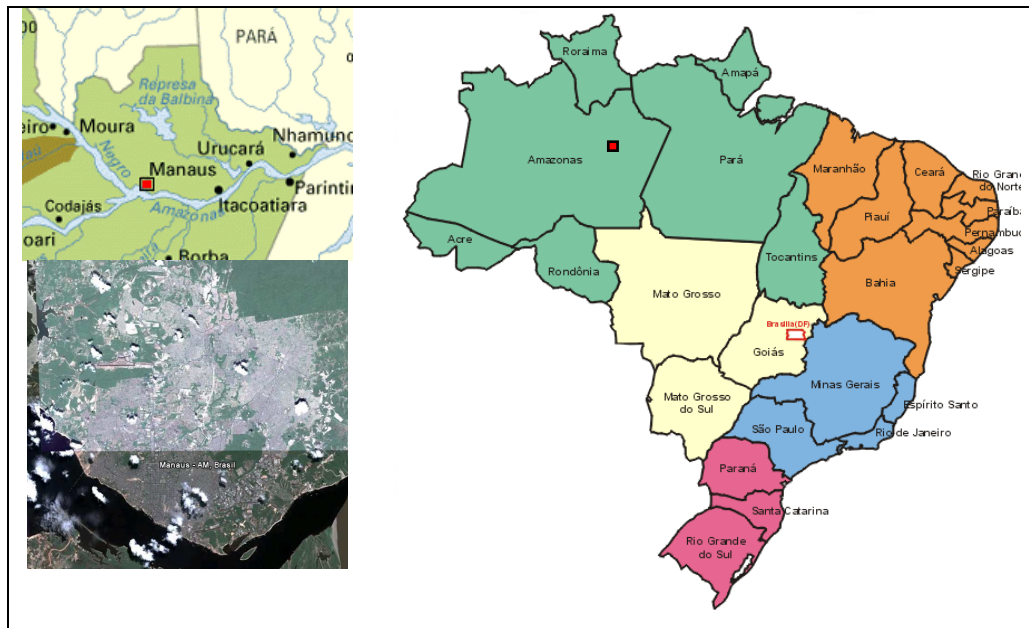


Figure 3 - Location of the city of Manaus.

Indeed, the city stands out for population density, from the total population of 1,646,602 inhabitants, the urban population is around 1,396,768 living in an area of 377 km² (IBGE, 2007). The geographic division, defined and recognized by tradition, documents and laws, which comprises six urban areas which are: South, South Central, Midwest, West, North and East, with the south border of Rio Negro (Loman, 2006). The city spatial distribution of average family income per census slots (Figure 4), shows the heterogeneous distribution configuration, indicating some "pockets" of income that link relations between the city topology and urban development, driven by the availability of natural barriers such as creeks and forest (Silva et al, 2007).

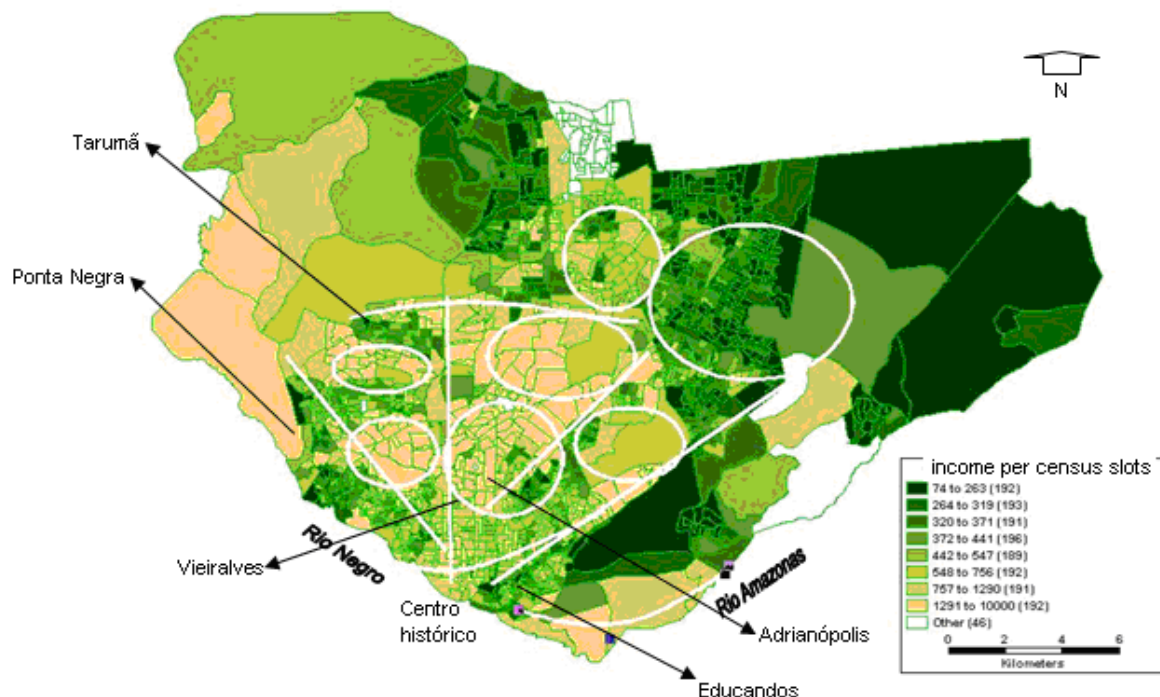


Figure 4 – Average Familiar income by census slots (Source: Silva et al, 2007)

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The Municipal Institute of Transport (ITMU) is shown in the diagnosis as the agency responsible for transit management in the city of Manaus (Seabra, 2008). The ITMU is a local authority under the special scheme established by the Municipal Law No. 938 of January 20, 2006, integrating the basic structure of the Municipal Staff. General operational structure and the main agency structure is composed of five coordinations divided into thirty departments. Each department develops activities that support the process. Such activities are performed independent of one another, but any application or duties generation are registered. Moreover, there is no control of actions and proceedings relating to the agency legal assignments. The transit agency operates independently from the traffic management agency. In general, as strategic statements, the transit agency has the task of ensuring the right of mobility to users of transportation services. The defined vision is placed to ensure quality service to users of the transit system, but customers services are limited, with high level of complaints.

METHODOLOGY APPLICATION FOR STRATEGIC MANAGEMENT BASED ON OSMP

For the identification of OSMP's in an overall view, based in a national survey, were contacted various transit management agencies, among which four supported this research. They are the city of Porto Alegre, Fortaleza, Goiânia and Manaus. In this case, The OSMP's matches were classified as:

- A - Plan and schedule transit operation;
- B - Delegate and regulate transit services;
- C - Supervise and inspect transit operation;
- D - Manage fee policy;
- E – Have adequate service customer service;

As shown on Figure 5, the hierarchy of OSMP's revealed the level of influence, the relative weight and the importance level of each OSMP. While OSMP A (planning and scheduling the transit operation) was considered the highest level of importance among the cities surveyed, followed by OSMP B, in the City of Goiania, those OSMP did not show such relationship. This fact can be explained by the poorly data provided by the local managing agency. The same was observed for the OSMP E (Have adequate customer service) in Porto Alegre. Moreover, the greater importance given to OSMP A was placed due to the observed values of the weights from Manaus and Fortaleza. The OSMP D (manage fee policy) was observed to be with significance of less than small in overall, since its data is restricted to City of Goiânia and City of Manaus.

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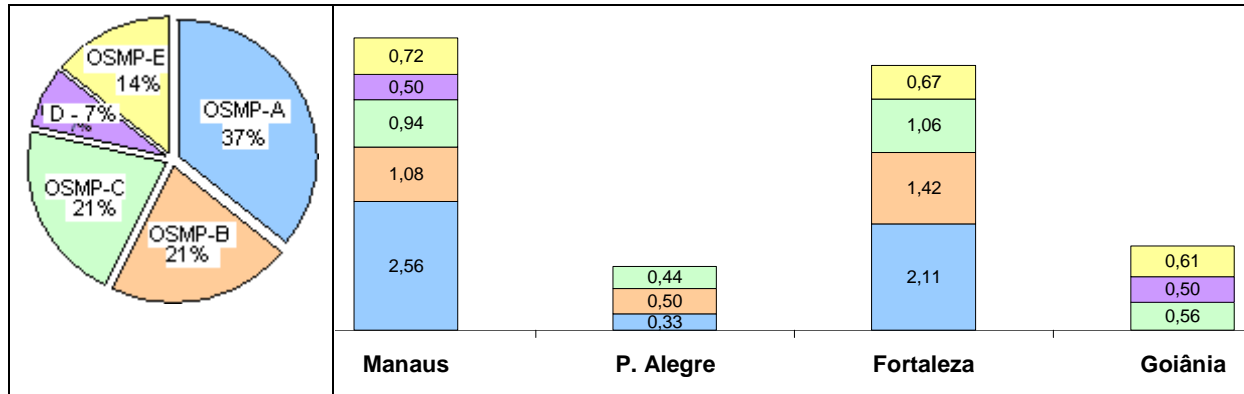


Figure 5: Overview of OSMP.

The sequence, considering such benchmarks and Manaus transit agency diagnosis (internal and external characterization), it lead to the assessment phase of the a specific local agency. The situational coherence matrix of Manaus's agency represents the functional analysis of the OSMP for the agency, set by the degree of compliance with legal assignments, as shown in Figure 6.

MACROPROCESSES		STRATEGIC MEASURES											
		LEGAL ASSIGNMENTS											
		a	e	f	g	h	k	n	o	u	v		
A	Aa	meet	meet	meet	meet	meet	meet	meet	meet	meet	meet	SATISFACTORY	
	Ae	meet	meet	meet	meet	meet	meet	meet	meet	meet	meet	SATISFACTORY	
	Af	meet	meet	meet	meet	meet	meet	meet	meet	meet	meet	SATISFACTORY	
	Ag	meet	meet	meet	meet	meet	meet	meet	meet	meet	meet	SATISFACTORY	
	Ah	meet	meet	meet	meet	meet	meet	meet	meet	meet	meet	SATISFACTORY	
	Av	meet	meet	meet	meet	meet	meet	meet	meet	meet	meet	SATISFACTORY	
B	Ba	meet	meet	meet	meet	meet	meet	meet	meet	meet	meet	SATISFACTORY	
	Be	meet	meet	meet	meet	meet	meet	meet	meet	meet	meet	SATISFACTORY	
C	Ca	meet	meet	meet	meet	meet	meet	meet	meet	meet	meet	SATISFACTORY	
	Ce	meet	meet	meet	meet	meet	meet	meet	meet	meet	meet	SATISFACTORY	
D	Da	meet	meet	meet	meet	meet	meet	meet	meet	meet	meet	SATISFACTORY	
	De	meet	meet	meet	meet	meet	meet	meet	meet	meet	meet	SATISFACTORY	
E	Ea	meet	meet	meet	meet	meet	meet	meet	meet	meet	meet	SATISFACTORY	
	Eu	meet	meet	meet	meet	meet	meet	meet	meet	meet	meet	SATISFACTORY	

Figure 6 – Matrix of relationship for IMTU by degree of legal assignments compliance.

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Therefore, legal performance of ITMU, according to the focus of OSMP, was considered satisfactory in the OSMP – A and unsatisfactory for others (B, C, D and E). Furthermore, it was possible to visualize assignments interferences and partially or inadequate customer service (as evidenced in OSMP E). In this case, it is possible to highlight, as strategic measures, the redefinition of legal assignments in achieving OSMP. It is suggested to review or to redefine all assignments. It also can be showed that there is a legal assignment labeled "F" (Figure 6) which does not correspond to any of OSMP (measure 1), besides the legal assignment "n" have only a process that meets the assignment (measure 2). In the case of assignments "k", "o" and "u", the process do not meet or partially meet the assignments.

CONCLUSIONS

The study presented a performance evaluation of the transit managing agency of the City of Manaus, in the focus of OSMP. Compliance with the methodological steps provided a situational characterization of the agency, besides facilitating the visualization of failures and weaknesses in organizational process. It was also possible to suggest measures that look for institutional strengthening, for the compliance with the legal assignments for the agency. In this context, it was identified and defined the organizational strategic macroprocesses for transit management agencies, the relevant decision context, according to its legal assignments. Considering the brazilian agencies that integrated this study, the OSMP were identified as: planning and scheduling operation, delegate and regulate services, supervise and inspect the operation, administer fee policy and have adequate customer service.

In addition, the study allowed, in a overall view, to verify that the transit agencies of Brazilian cities, are not scaling their organizational efforts proportionately in its three areas (technical, regulatory and organizational). The study highlights change needs on current management model, also on its organizational arrangement, inasmuch the diverse results of OSMP levels observed. OSMP approach analysis reflected the lack of priority on certain legal assignments, bringing up some questions about how transit agencies can perform the planning and operation of transit services, whereas the lack of importance given to customer services? Yet it was observed the lack of priority in managing information, the basis for operational planning, thus compromising the management and operational quality of transit services of those studied cases, set as a general reality for brazilian cities.

In the specific case of the Manaus's agency, it was suggested a convergence in the general understanding related to the transit agency. This understanding has referred to agency's essence of its existence, concepts involving a broad system of public values that affect decision making. The matrix of relationship showed a strategic diagnosis and a legal performance analysis, depending upon compliance degree with legal assignments. This diagnosis, given OSMP approach, was satisfactory regarding to planning and scheduling transit services OSMP, unsatisfactory to OSMP referring to supervise and inspect the operation, administer fee policy and customer service. Although the proposed organizational structure of Manaus's agency (according to the study conducted in 2008) is appropriate for current strategic elements, such aspects affect the strategic management of transit services, with unsatisfactory performance regarding OSMP.

It is important to note that other service agencies responsibilities were not considered. It is necessary to seek consistency between OSMP and market practice and, moreover, the strategic elements should follow the guidelines established by Federal Government. It is

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needed to highlight the limitations observed in the step of collecting data from the managing agencies: the lack of cooperation from some staff with strategic responsibility and access to required information. Thus, there is a need to obtain a larger sample of transit manager agencies, to qualify OSMP in a global context, beyond the definition and clarification of strategic information in the managements.

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