

## **(In) Applicability of competition as a regulatory mechanism for public rail transportation in the Rio de Janeiro metropolitan area**

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### **ABSTRACT**

This article looks at the social right to transportation and explores its impact on workers' lives, with a focus on the urban train system in Rio de Janeiro. The quality of public transportation plays a crucial role in workers' quality of life, especially for populations in peripheral areas. The aim of this study is to broaden the debate on the impacts of the transport system on workers' professional and personal lives by categorizing some impact outcomes. The study also presents the workers' own proposals for improving the service. In conclusion, the article highlights the importance of public transport for the general well-being of society and discusses the challenges facing Rio's urban rail system.

**Key words:** Public transport, Urban trains, Rio de Janeiro, Worker well-being, Quality of life.

### **INTRODUCTION**

"Social rights are education, health, food, work, housing, transportation, leisure, security, social security, protection of motherhood and childhood, assistance to the destitute, in the form of this Constitution." (BRAZIL, 1988)

The social right to transportation is recent in historical time. It was included in our magna carta in 2015, when PEC 74/2013 was approved (AGÊNCIA SENADO, 2015), and there is still a long way to go for our public transportation system to reach levels considered satisfactory. This right must be exercised by prioritizing certain social aspects, such as improving the quality of life of populations living in areas far from the major centers, i.e. the outskirts of large cities and "survivors" with incomes significantly below the national average. The quality of public transport has a direct impact on the lives of these people.

Therefore, the purpose of this article is to broaden the debate on the impacts on workers' lives and possible ways for the urban train system in Rio de Janeiro to make a greater contribution and adhere to the aforementioned constitutional provision, considering the role of the state and its neoliberal reform.

The main categories related to the impact of urban rail transport on working life in Rio de Janeiro include the loss of time and quality of life due to long journeys, the need to leave early to avoid overcrowding, frequent delays that affect punctuality at work and the occurrence of specific incidents that generate additional delays. In addition, the conditions in the stations also negatively influence the experience of workers using urban rail transport.

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The main categories identified as having an impact on workers' personal lives as a result of urban rail transportation in Rio de Janeiro include long and tiring working hours, which results in little time for family life, accumulated stress due to too few hours of sleep, missed appointments and activities due to travel time and inconsistent schedules, and reduced personal and rest time. These factors combined have significant negative effects on the quality of life and well-being of workers who depend on this mode of transportation.

The proposals made by female users of the urban rail system in Rio de Janeiro to improve the quality of the service involve reducing the intervals between trains, increasing the number of trains in areas of high demand, adopting methodologies used by the metro, implementing effective public policies, returning to state control of the system to avoid problems caused by the concessionaires, and criticizing the efficiency of private initiative in providing this public service. These proposals reflect the need for significant improvements to meet user demands and provide more efficient and satisfactory rail transportation.

## **NARRATIVE LITERATURE REVIEW AND METHOD**

With no intention of exhausting the subject and allowing for selection bias, we opted to conduct a narrative review of the literature in order to broadly contextualize the phenomenon under study and analyze the possibilities in the literature consulted, the starting point for building the theoretical framework of this research.

In order to assess the perception of the level of service offered by the rail transport system in the metropolitan region of Rio de Janeiro, a questionnaire was made available in August 2023 to workers who use the rail modal to travel from home to work to home, with the workplace in the vicinity of Candelária, Centro, Rio de Janeiro. This is an "impact assessment study" on the lives of the workers to provide complementary parameters to be categorized, since the data is subjective and necessary to build a reference of the social reality of these people.

Starting with the crisis of the 1970s, a brief analysis was made of the "reform of the state" and the mechanism of competition and concessions as a market regulator.

The over-accumulation crisis of the 1970s hit Brazil in the early 1980s. Until then, since the 1950s, the economic-productive model had been based on the Keynesian-Fordist system. This model fulfilled a social role, with the state playing a leading role via social policies and public policies in general. However, the growing losses in revenue led the state to seek bank financing more intensely, compromising investment capacity and leveraging inflation and interest rates.

Souza Filho and Gurgel (2016) assess that the result of the neoliberal reform, a consequence of the crisis of the Fordist Keynesian model of the 1970s, had negative impacts during the process of



privatizations and concessions, despite having expanded the supply of products and services. However, the quality of services and the major public problems of health, education, security and assistance have not improved, and it is possible to say that the mercantile character adopted for these services has probably made them worse, given that such practices will not always adhere to the concept of "public value".

However, it should be noted that some principles implemented at that time in public administration proved to be very useful, such as transparency, responsibility, planning and the managerial nature of the state, which made it possible to optimize the use of public resources, as Gurgel (2003) states: "But taken together, the disproportionate spending, the employability, the absence of controls and limits, the overpriced purchases and underpriced rents, the corruption, the growing tax evasion, the subsidies, the negative interest rates, the tax waivers and the budget detour, all this put together undermined the state's investment capacity." However, it is true that not all state actions have to adhere to business management practices, given that the concept of "public value" has multiple dimensions and realities beyond the logic of profit.

Mistakes can (and should) be seen as an opportunity for creative transformation. What is the best service level from a public administration perspective? We need to identify a relationship that extrapolates from the "highest profit" to the "best public value" (existing services x society's emergency needs).

Various actors began to question the structure of the state, advocating a reduction in government attributions. The neoliberal reform was supported by various sectors, such as the press, various political leaders, business associations and even progressive sectors, even in the context of the post-military regime. The so-called "Washington Consensus" gained prominence in the national narrative, imposing economic liberalization and direct investment. In this context, the agenda of privatizations and concessions of previously public, monopolistic and state-owned services intensified, such as sanitation, telephony, transport, health, education and others. Thus, the agenda of managerial modernization of the state (managerialism) is implemented, limiting its actions to those that are proper to it.

Souza Filho and Gurgel (2016) point out (and criticize the statement) that Bresser-Pereira, Minister of Administration and State Reform, echoing the general voice of national and international hegemonic thinking, came to say that the crisis the Brazilian economy was going through was due to the state, given that "The Great Depression of the 1930s resulted from the malfunctioning of the market, the Great Crisis of the 1980s from the collapse of the twentieth-century welfare state."

"Managerialism (the declared means of achieving the goal of increasing state governance) is, in a way, a different form of privatization. It consists of bringing the logic and practices of business management to the environment of public services and bodies. Hospitals, health centers and public schools are now treated like companies, with targets being set, just like in a factory. Targets are being set for health centers, setting a standard time, Taylorist style." (SOUZA FILHO E GURGEL, 2016)



It is up to the state to lead its people towards priority general objectives, seeking the most effective use of the resources at its disposal.

## PASSENGER TRANSPORT - SERVICE, LOGISTICS AND ENGINEERING

The purpose of urban public transport is to connect the various regions of a city or metropolitan area, thus offering mobility to those who do not use private means for any reason, and it is an essential service for the lower-income population who commute on a daily basis. Of paramount importance for citizens and a great advantage for large cities, if it offers minimally acceptable quality, it can greatly influence the proper functioning of urban logistics, encouraging people not to use their cars, improving traffic conditions and also contributing to the reduction of urban pollution.

In business logistics, the overall goal of optimizing any system is to maximize profit. Good business logistics means getting the product to the right place, at the right time and in the right quantity, at competitive prices. However, this concept cannot be the only guide for the transportation of people. The "service level" for passenger transportation must address other factors that are unimportant for freight traffic.

Logistics is primarily a service. As such, the level of logistics service must be measured and constantly evaluated to check that the standards of service considered acceptable are being delivered to society.

Rodrigues (2006) states that "we must not stop looking at public transport from a market perspective, but it must also be treated as a universal public service". This is one of the central points of the debate, demanding the definition of acceptable service standards that satisfy the majority of users of the public transport system. "The transport of people, in general, is an intermediary activity, and a quality service offers little impedance to passengers, that is, speed, comfort and safety must be present at all stages, minimizing the expenditure of energy and time by users." Keynes already warned about the need for the hand of the state alongside the invisible hand of the market.

Train and subway systems have particular characteristics compared to road systems, and it is not possible to reverse previous decisions, such as routes and station locations, given the high cost and rigidity of the intrinsic infrastructure. Future decisions must consider complex calculations to assess the impacts of changes, based on related areas of knowledge, which are best mastered by transportation and logistics engineering professionals, among others.

The quality of a service can be assessed using indicators. Among other things, productivity and quality indicators must be simple to formulate and understandable by all employees involved in the production process. In addition, they must have a satisfactory degree of coverage and representativeness of the activities and results generated (TIRONI et al, 1991). In other words, the low productivity of the



public transport system negatively impacts the lives of thousands of people, and also compromises the productive capacity of organizations, as well as the academic performance of students who travel long distances.

Among the various indicators that qualify and measure the productivity of a passenger transport system, those considered to have the greatest impact on the lives of citizens should be prioritized: frequency of service, travel time, capacity, safety, integration and fares.

According to the Moovit Urban Mobility Report, in 2022 Rio de Janeiro is the fourth worst metropolis in the world in terms of commuting time, with an average of 67 minutes for a single journey. Around 12% of workers spend more than two hours commuting in one direction, and around 50% make two or more transfers. Considering that the data above are averages, and that breakdowns are recurrent, there are certainly single journeys of around three hours. These indicators indicate a deficient arrangement of Rio de Janeiro's public transport system, going beyond the problems related to the rail modal.

## THE COMPETITION MECHANISM AS A MARKET REGULATOR

In Brazil, the importance of antitrust policies arose in the context of changes in the role of the state in the early 1990s, when it moved towards privatization of state-owned companies, moving away from its role as a business state (MATIAS-PEREIRA).

In a healthy competitive environment, new companies can enter the market with reduced bureaucracy and fewer regulations, and existing companies can leave without significant restrictions. This ensures that there are no monopolies or oligopolies, generating competition for customers and consumers and, consequently, better products and services.

However, the competition mechanism does not exist where the "market system" has a high degree of concentration, i.e. when there is a restriction on the free market and there is no possibility of establishing a competitive system. This is the case of transport systems with high initial investment in infrastructure, such as subways or railways. Competition is one of the useful mechanisms for regulating markets and offering better products and services to consumers, but it fails in environments where it is impractical for new competitors to enter, as is the case here: monopolistic urban transport services with high investment.

## SUPERVIA

Since 1998, SuperVia has operated the urban train service in the Metropolitan Region (Rio de Janeiro, Duque de Caxias, Nova Iguaçu, Nilópolis, Mesquita, Queimados, São João de Meriti, Belford Roxo, Japeri, Magé, Paracambi and Guapimirim) through a 270-kilometer rail network divided into five branches, three extensions and 104 stations.



In 2021, SuperVia filed for Judicial Recovery with the Rio de Janeiro Court of Justice, based on the Extrajudicial Recovery and Bankruptcy Law (LRF), beginning a new cycle of negotiation with creditors and the granting authority, in order to overcome the current financial crisis, being the subject of a CPI in 2022.

The CPI (ALERJ) report recommends:

- **To the state government:** the adoption of various measures, such as, for example, a public tender to fill technical positions in the Regulatory Agency for Public Services Conceded for Waterway, Railway, Subway and Highway Transport (Agetransp), whose performance is the subject of questioning, the recreation of the Railway Police Battalion and investment in the qualification and modernization of the train system with the resources from the privatization of Cedae;
- **To Supervia:** the return of express trains, a reduction in overcrowding and waiting on trains, and adjustments between spans and unevenness on platforms;
- **To the ECA:** audit of the concessionaire's ordinary and ancillary revenues, given the investment made by the state government to improve the level of service offered to the population;
- **To Agetransp:** creation of the Passenger Council, and inclusion of a sector for the care and reception of victims of violent incidents in public transport, in line with the idea of "social control", through the participation of society in public management with the aim of monitoring and controlling the actions of the state in solving problems and guaranteeing the maintenance of services guaranteed by law; and
- **To Alerj:** approval of bills to guarantee new revenue from advertising and rental of real estate on the rail network, as well as the implementation of a monitoring and safety system for train drivers.

Continued losses, accidents and an unsatisfactory level of service indicate that the current concession model has been unsuccessful in both capital and social terms.

## RESULTS

Fourteen workers responded to the survey, which was divided into three sections: profile, assessment of perception of the service provided and qualitative assessment of personal and professional impacts, the third of which was considered relevant to the subject under study. In addition, the respondents were asked for proposals to improve the current conditions of the urban train system in Rio de Janeiro.



## PROFILE

Figure 1 - Age range

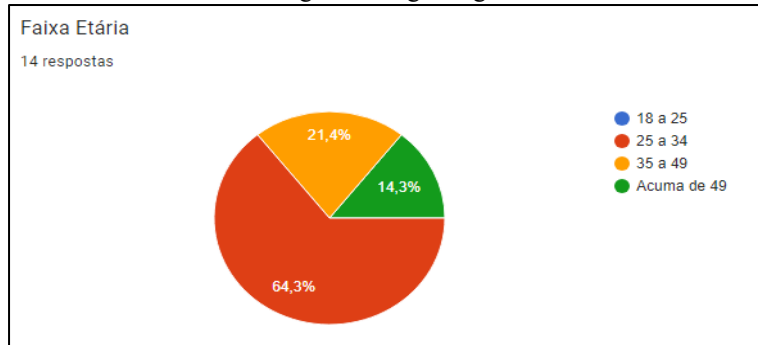


Figure 2 - Family income

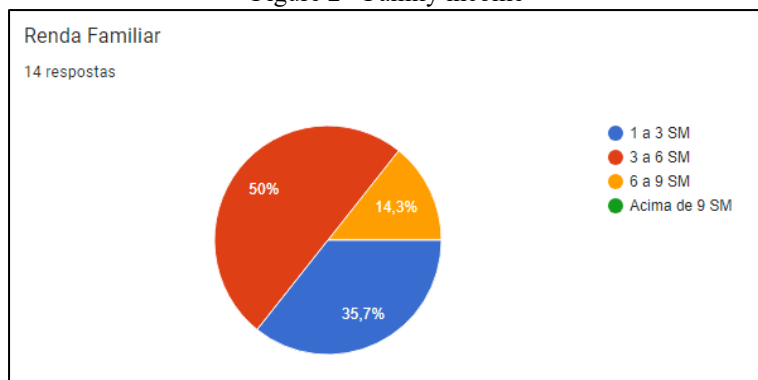


Figure 3 - Gender

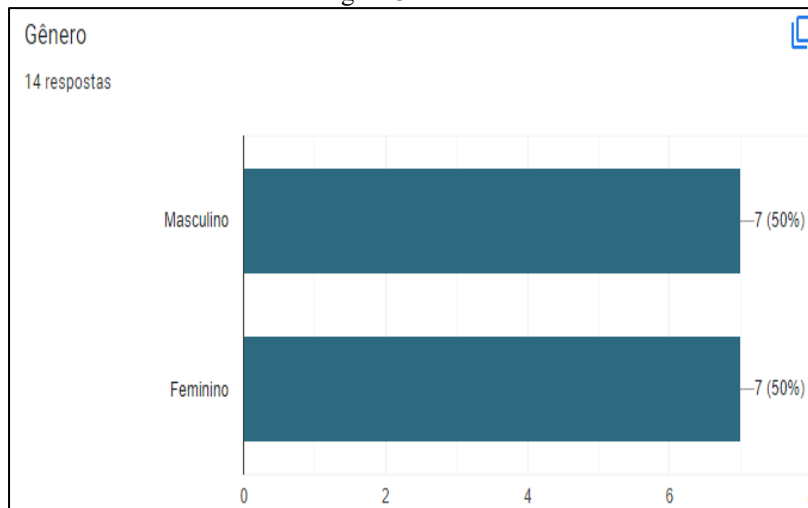


Figure 4 - Schooling

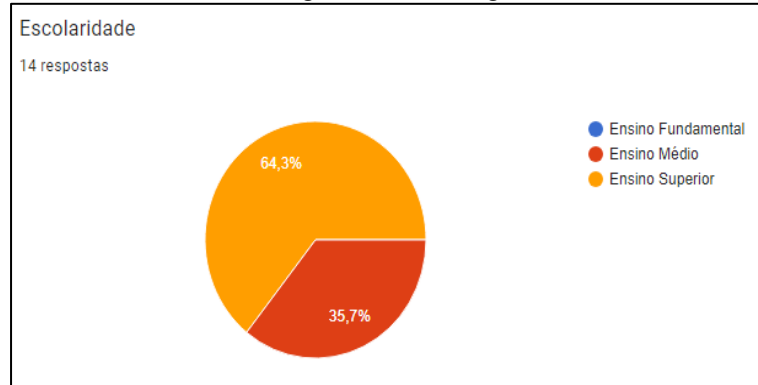
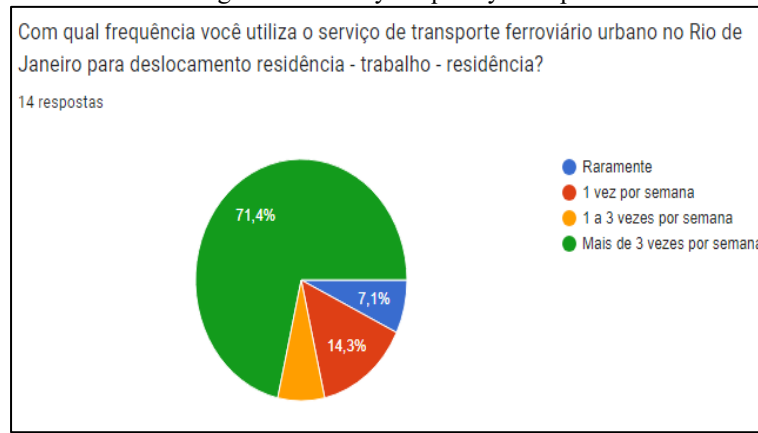


Figure 5 - Weekly frequency of trips



The general profile of the respondents is of young workers, with higher education and a family income of between three and six minimum wages, who use the rail system to commute between home and work more than three times a week. The respondents' level of education is evidence of a break with the stereotype formed about urban train users in Rio de Janeiro.

## PERCEPTION OF THE LEVEL OF SERVICE

Figure 6 - General level of satisfaction

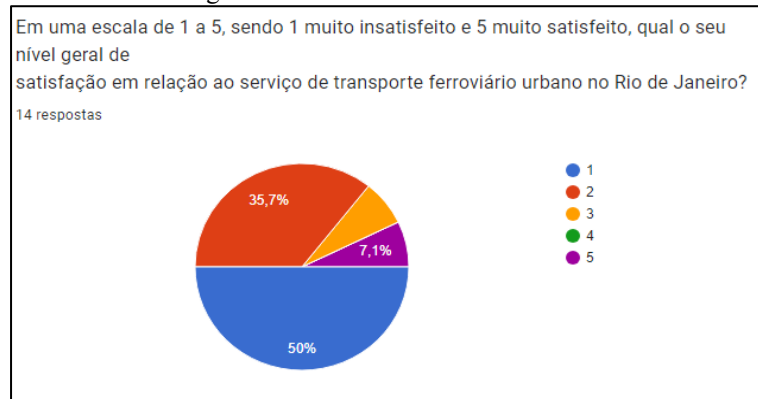




Figure 7 - Level of satisfaction with travel time

Em uma escala de 1 a 5, sendo 1 muito insatisfeito e 5 muito satisfeito, qual o seu nível de satisfação em relação ao tempo médio (duração das viagens) no transporte ferroviário urbano no Rio de Janeiro?

14 respostas

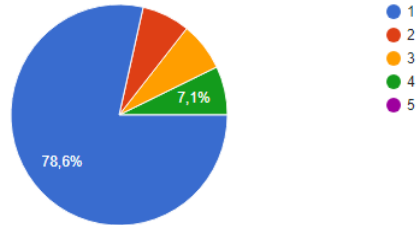


Figure 8 - Level of satisfaction with overcrowding

Em uma escala de 1 a 5, sendo 1 muito insatisfeito e 5 muito satisfeito, qual o seu nível de satisfação em relação à superlotação no transporte ferroviário urbano no Rio de Janeiro?

14 respostas

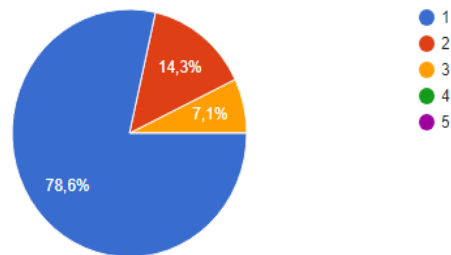
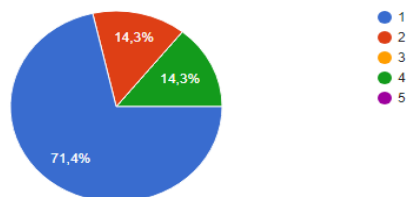


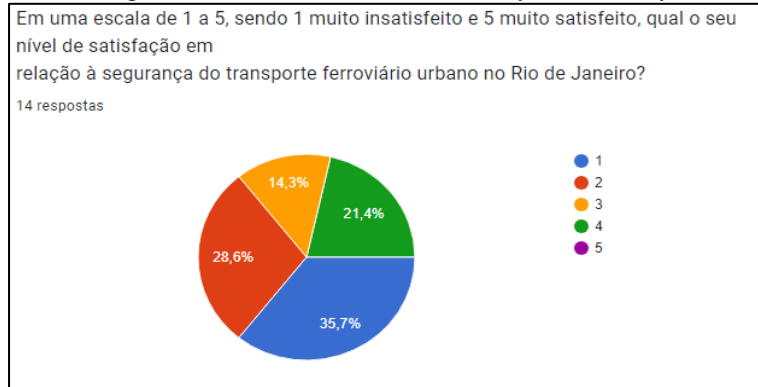
Figure 9 - Level of satisfaction with the break period

Em uma escala de 1 a 5, sendo 1 muito insatisfeito e 5 muito satisfeito, qual o seu nível de satisfação em relação ao período de intervalo entre trens no transporte ferroviário urbano no Rio de Janeiro?

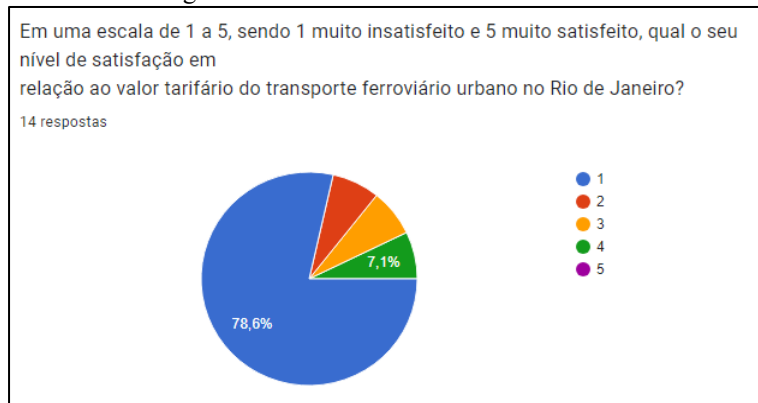
14 respostas



**Figure 10 - Level of satisfaction with system security**



**Figure 11 - Level of satisfaction with fares**



**Figure 12 - Level of satisfaction with public safety**

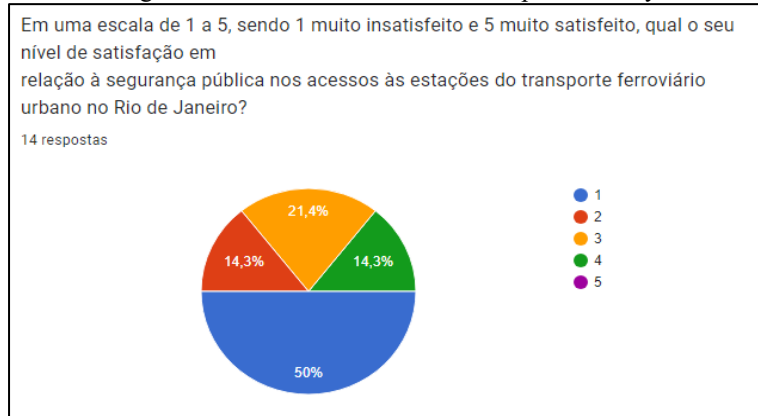
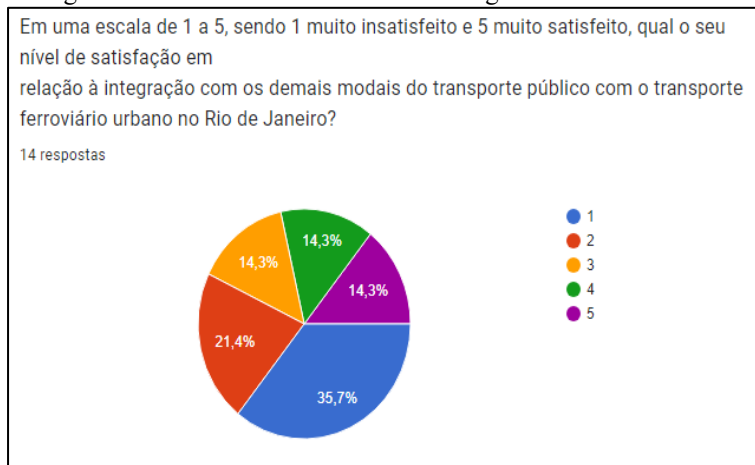


Figure 13 - Level of satisfaction with integration between modes



The general level of perception is significantly negative, with the highlights being average journey times, overcrowding, fares, time between trains and public safety at station entrances.

## IMPACTS

There was no clear separation in the categorization related to professional and personal impacts, demonstrating the connection and mutual influence between work and other aspects of the workers' lives.

### Professional impacts

Based on the answers provided on the impact of urban rail transport on the working lives of workers in Rio de Janeiro, the themes identified can be categorized as follows:

- **Wasting Time and Quality of Life**

The daily loss of approximately two hours in rail transport is a significant factor that results in a decrease in quality of life.

The time spent commuting directly affects the balance between work and personal life.

- **Unemployment**

Having to leave their jobs because of problems related to rail transport is perhaps the most negative impact on workers' lives.

- **Tiredness and overcrowding**

Users face fatigue due to the need to leave home early to avoid overcrowding and delays.

Overcrowding, irregular breaks and frequent problems result in discomfort and physical fatigue.

- **Constant delays**

Train delays and irregular breaks result in constant delays in getting to work.

Frequent delays can damage workers' reputations and performance.



- **Specific Occurrences**

Cable thefts cause delays in the home-work commute, causing additional problems.

Train breakdowns and other incidents affect journey times and punctuality at work.

- **Station conditions**

Problems such as long stop times at stations, noise caused by street vendors, beggars, religious people and artists, and overcrowding at stations have an impact on workers' quality of life.

## **Personal impacts**

Based on the responses about the impact of urban rail transport on the personal lives of workers in Rio de Janeiro, the themes identified can be categorized as follows:

- **Long journeys and travel time**

The need to leave home early and return late due to the long intervals between trains and the poor signaling service of the supervia.

Return journeys are longer than outward journeys, which results in long and exhausting journeys.

- **Precarious Family Life**

The times they leave and return home cause limited family contact, affecting interactions with the family.

- **Stress and fatigue**

The stress is the result of accumulated fatigue from traveling, where workers only sleep about four hours a day due to the time spent in transport.

This stress has a negative impact on personal life and can lead to mental and physical health problems.

- **Missed appointments and activities**

The impact of rail transportation affects the ability to meet personal commitments, such as medical appointments and college meetings.

The physical and mental strain also contributes to missing important appointments and activities.

- **Inconstancy in timetables**

The inconstancy of the train timetables makes it difficult for workers to plan their daily schedules, preventing them from adequately planning the time of their journeys.

- **Decreased Personal and Rest Time**

The time spent commuting by train reduces the time available for rest and other personal and leisure activities.



## PROPOSALS

Based on the proposals put forward by workers who use the urban rail system in Rio de Janeiro to improve the quality of the service provided, the themes identified can be categorized as follows:

- **Interval reduction**

Decreased intervals between trains, especially at peak times.

A proposal to make extra trains available on branches and stations with a large flow of people to meet demand.

- **Using Metro Methodologies**

Suggestion to apply the same system as the metro timetable to improve the regularity and frequency of trains.

- **Better Management and Public Policy**

There is a clamor for more efficient management of Rio de Janeiro's urban rail system and the need to implement public policies aimed at improving the quality of the service offered.

- **Return to State Control**

Some interviewees believe that total state control over rail transport is essential to improve the quality of the service.

It is argued that management by concessionaires has worsened the quality of the services provided.

- **Criticism of Private Enterprise**

Criticism of private initiative in mass transportation, considering it inefficient in meeting social needs.

Observation of physical and administrative scrapping instead of the expected modernizations.

An opportunity arises to deepen this research: the contradiction represented by the simultaneous call for re-statization and criticism of the concession system, while at the same time suggesting the use of principles applied by the metro, currently under concession.

## FINAL CONSIDERATIONS

It is true that the principle of competition as a market regulatory mechanism is flawed when applied to monopoly services. The state has an obligation to provide public services that contribute to meeting the basic rights of its citizens, but it lacks sufficient resources to fully meet society's needs. In the case in point, the concession system has also been unsuccessful in solving the problems of the urban train system in the metropolis of Rio de Janeiro. In the long term, it is necessary to design a new model for the public transport system in the Rio de Janeiro metropolitan area. In the short term, there is an urgent need to adopt measures to mitigate the impacts on our workers.



There are factors exogenous to the system, notably aspects related to public safety. Cable theft, depredations and shootings have an impact on the planned flow of trains.

Transport and logistics engineering professionals should be given greater prominence, seeking technical solutions with a lasting effect.

It is essential to consider the results of opinion polls of public transport users to assess the level of service provided and the impacts generated, in addition to the results of technical information, which may not fully represent the relationship between the reality of users and transport services. Once again, residents of the periphery are more affected than the rest of society, as they live in more remote areas and have precarious transport. Precarious transport, in fact, is a significant part of public transport in the Rio de Janeiro metropolitan area.

Different organizations can and should seek flexible working hours, intensification of voluntary *home office* and other measures to reduce the exposure of the workforce to the precariousness of public transport at peak times.

There are workers in Rio de Janeiro who spend six hours a day commuting from home to work to home, which when added to the eight-hour working day adds up to fourteen hours of work, almost 90% of the sixteen-hour working day observed during the industrial revolution. It is hypocritical to be appalled by this historical fact. It happens here. And now.

The images of overcrowded wagons take us back to the idea of the Taylorist "bovine man", no longer subject to the control of "time and movement", but rather students, workers and laborers in overcrowded wagons with the same care allocated to the transportation of herds on our nation's railroads.

In addition, it is important to note that the precariousness of public transport plays a significant role in disordered population densification, contributing to the formation of informal urban agglomerations. The lack of an efficient and accessible transportation system often leads workers to seek housing in areas close to their workplaces, often in regions lacking basic infrastructure. This phenomenon not only reflects a lack of urban planning, but also perpetuates unfavorable socio-economic conditions. Poor public transportation not only limits housing options, but also perpetuates inequalities, since those most affected are residents of the peripheries, who face significant daily challenges in ensuring access to essential services. Thus, when considering improving the public transport system, it becomes essential to address not only mobility issues, but also the social and urban consequences that directly affect the quality of life and sustainable development of the Rio metropolis.

In short, the state, organizations and society must consider that compromising workers' well-being to this extent also compromises the regional economy and productivity.



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