

# QUALITATIVE ANALYSIS OF URBAN PUBLIC TRANSPORTATION IN BUCHAREST

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## Abstract

This paper presents the results of an analysis aiming to evaluate the quality of public transport services in Bucharest. The analysis was performed from two perspectives: the perceived quality of passengers and the quality desired by them. This paper will provide information on the impact that transport has on human life and the need for continuous improvement of this service.

**Keywords:** public transport, transportation, travel, quality, analysis.

## 1. INTRODUCTION

The quality of the public transport system shall cover at least two aspects: problems experienced by constant users, permanent users, as well as occasional users. The desired quality is different from perceived quality, given that the first of these does not refer to the daily experiences of users, but rather what they want from public transport system (Dell'Olio, Ibeas and Cecina, 2001). This is why the study of the desired quality is important, because its knowledge enables the local authorities to gather information for marketing policies customized according to user requirements.

Society perceives transport as a vital element, our entire existence depends on mobility, so that one of the reasons we conducted this study, consists in the desire to discover the causes for the large part of the population that is using the personal vehicle in preference to public transport .

## 2. PUBLIC TRANSPORTATION IN BUCHAREST

Transportation is a factor of influence for other sectors, representing an economic power by the fact that, substantially, it contributes to GDP, creating employment opportunities for the workforce and indirect benefits regarding the regional development and globalization. Urban transport problems increase in intensity due to the continuous expansion of urban territory and the increased number of vehicles.

Until 1989, local public transport held the main role. After this period, private car became predominant in preference to local public transport, resulting therefore difficult traffic generating stress, reducing movement and parking space and increasing pollution.

In Romania there is a structure called the Romanian Union of Public Transport, founded in 1990. This is a nongovernmental, independent, non-profit organisation that carries out activities in public transport. RUPT (URTP) mainly aims at ensuring the right to mobility of all citizens of Romania ([www.urtp.ro/old/rom/index.html](http://www.urtp.ro/old/rom/index.html)).

The local public transport service in Romania has experienced a cyclic evolution. Between the '80s and '90s suffered a decline, being followed by a rehabilitation period 1990-1995, then stagnation until 2000, standing out a diversification due to decentralization and taking over of all services by the local councils , after 2001 (sustainable development Strategy of the local passenger transport service - Romania 2025 October 31, 2003, on [http://www.urtp.ro/library/Strategia\\_URTP.doc](http://www.urtp.ro/library/Strategia_URTP.doc)).

The service of local public passenger transport was continuously influenced by numerous objective factors such as urban expansion at the expense of the rural area, the spectacular increase of the number of private cars, especially after 1990, leading to lack of parking and more. Meanwhile, local public transport passengers in Romania, after 1990, faced a series of problems: the use of the same fleet with enhanced physical and moral wear for a growing number of passengers and from here increases the length of travel, unable to cover higher operating costs, lack of investment, etc.

- Regia Autonoma de Transport Bucuresti is a social utility service, of collective and general interest for the passenger public transport in Bucharest. The overall objective is to increase the quality of urban transport public passenger transport and its alignment to the existing level in other European capitals, to achieve the required quality at acceptable rates, using specialized personnel, to efficiently manage the resources allocated, to ensure safety and comfort and to protect the environment ([www.ratb.ro](http://www.ratb.ro), RATB activity Report for the year 2010).

RATB network length is 509 km. about double (335 Km. urban lines and 55 km. Suburban lines), of which 143 km. tram, 76 km. trolley and 390 km. bus. Route length is 1196 km. double track, of which 241 km. tram, 148 Km. trolley and 807 km. bus (of which 120 km. preorasenes). Total number of lines is 125, of which 25 tram lines, 19 trolleybus lines and 81 bus lines (of which 10 are Suburban). The total number of stations off is 2019, of which 593 stations to trams, trolleybuses and 89 for 1090 buses (of which 279 suburbs). The park inventory consists of 2142 vehicles, of which 507 trams, 302 trolleybuses and buses 1333 (taken from [www.ratb.ro/statistici.php.ro/](http://www.ratb.ro/statistici.php.ro/)).

In Bucharest, outside the area of public transportation system, there is underground transport system, subway, representing the best solution for decongesting traffic surface. Subway Transport Trading Company Bucharest - METROREX SA ensures the safe passenger transport in terms of comfort and speed.

Currently there are four metro lines in exploitation and three lines running. Network length is 69.25 km., With 51 stations, with average distance of 1.5 km between stations. Metrorex has 44 Bombardier trains and 33 IVA trains ([www.metrorex.ro](http://www.metrorex.ro)).

In the analysis that we made regarding the performance of the public transport service from Bucharest, resulted the following positive aspects:

- RATB transport network is one of the densest transport networks in Europe, the fourth largest on the continent, carrying the average 2.26 million passengers per day (the most numerous are those who travel by bus) (taken from [www.ratb.ro/statistici.php.ro/](http://www.ratb.ro/statistici.php.ro/));
- Introduction of the automatically charging with the activated card (for urban transport) and megnetica card for the subway;
- Relatively low price of tickets practiced by RATB (1.3 Euro / trip), compared with the rate of the area of public transport in Paris (1.7 Euro / trip, respectively 7.31 Ron), Vienna (1.8 Euro / travel, respectively 7.74 Ron), London (2.3 £ / travel, respectively 12.0 Ron) and Rome (1 Euro / trip respectively 4.34 Ron / travel), etc..;
- Relatively low price charged by Metrorex (2 Ron / travel for 2 travel cards and 1 Euro / travel for 10 trips cards), compared with the tariff for a trip to Vienna and Paris metro (1 , 6 Euro / trip, respectively 6.94 Euro / trip), Rome (1 Euro / trip, respectively 4.34 Euro / trip), etc. ;
- Increased funds allocated to investment in underground transport infrastructure in order to extend the metro network.

Among the negative aspects, we can specify:

- RATB existing public transport services at night, only at large periods of time (ex. between 1.00 and 3.00 am the interval is 120 minutes) and on a small number of tracks (23 tracks at night, compared the total of 125 lines for buses, trolleybuses and trams);
- Lack of public transport services underground at night (between 11.00 pm, when does the last subway stations end and 5.00 am);
- Long duration of the journey with public transport on the surface, due to, primarily, traffic congestion, which slows the movement of vehicles;
- High proportion of fraudulent travel. According to a survey conducted in 2009, the [www.ratb.ro](http://www.ratb.ro), over 75% of Bucharest citizens have traveled without a ticket.

### 3. INTRODUCTION TO RESEARCH TOPICS

With the goal to obtain some real information about the quality of public transportation services, we used a classical method, the direct involvement of citizens, namely a poll. According to specialists (Sillamy, 1996) the poll is a survey aiming a representative population sample and aimed at shaping an image on the opinion of those interviewed. Sometimes it is desirable to know as soon as possible the ideas and aspirations of the public. Therefore, the survey allows an approximation of reality, without excessive costs.

In other words, the survey is a method that consists in questioning a sample of individuals representative for a larger population called the parent population or target population (Boudon et al, 1996). The survey is only a special method of investigation. Even in its most usual, the poll is just a way for survey of opinion.

It is known that the most important factor influencing the accuracy of a poll is given by the sample size taken from the herd population. Increasing the sample size, would undoubtedly lead to increasing precision, but also would increase the costs incurred during the investigation as well as provided the necessary calculations and data interpretation.

Sampling is the process through which you select a number of citizens, so that, knowing the specific features thereof, may be estimated corresponding characteristics of the entire population. The sample is the subset obtained after sampling.

The questionnaire, developed by the classical methodology in the field investigations was verified by a pilot survey carried out previously and applied to a number of subjects. the pilot survey confirmed questionnaire issues, including how to structure, allowing refinement of analytical variables significant for the final conclusions (Caramete, 2002).

The criteria on which we selected categories of respondents had in mind , first of all, the age, very important aspect, because this is one of the features that differentiate decisions. Upper limit was set as 65 years, because along with the age changes occur affecting consumer behavior. Lower limit threshold was set at 18 years, to avoid the risk that this questionnaire will be treated with flippancy.

So, people aged between 18 and 65 were questioned.

Another necessary condition was the use of transportation, by the respondents.

Among those questioned were targeted both those that use public transport to get to work, and also those who go for leisure. Therefore questionnaires were distributed during both peak hours (when filling conditions were unfavorable), as well as outside. Also, to enter into research those who occasionally circulated the poll was conducted also on Saturdays and Sundays.

### 3.1. Data collection

In this randomly poll , 240 questionnaires were distributed, of which 214 have completed all fields, the remaining 26 are incomplete. The incomplete were not taken into account, they are not supplying sufficient information for the research to be relevant.

On average a questionnaire took about 10 minutes, enough to fill them in means of transport (bus, tram or trolley).

Were approached persons who traveled routes that included at least five subway stations, bus, tram or trolleybus. Were equally distributed 60 questionnaires for each public transport. The highest completion rate value was obtained for metro, with a value of 95%, therefore out of the 60 questionnaires distributed, only 3 were incomplete. The tram got the lowest completion rate of 83.33%, with only 50 correctly completed questionnaires. Completion rate for bus was 91.66%, with 5 incomplete questionnaires, and the trolley, the rate was 86.66%, with 8 incomplete questionnaires (Figure 1).

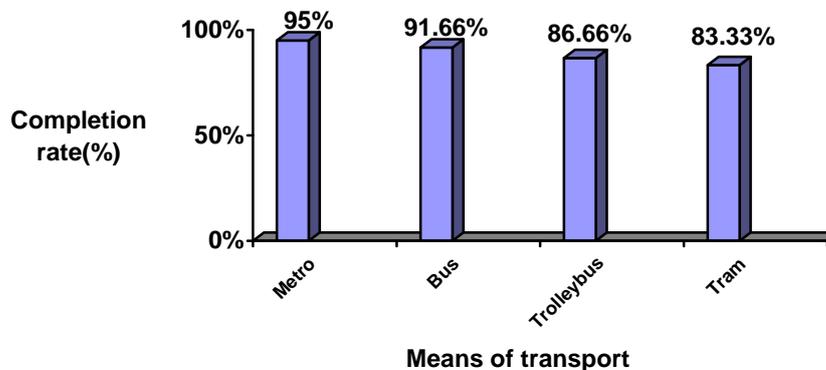


FIGURE 1 - COMPLETION RATE QUESTIONNAIRES ACCORDING TO THE TYPE OF TRANSPORT

Please note that the distribution of questionnaires was made at that time of day and in those days of the week, so that does not encourage the involvement of a single category that means passenger transport users. So, proportionally, were the same number of questionnaires distributed during the week on peak hours (20), in off-peak (20) and on Saturdays and Sundays (20), for each vehicle separately. Bus lines that conducted the poll were: 101 (Mrs. Ghica - Faur), 133 (Gara Basarab - Bd Tineretului) and 136 (West CET Military - Pod Izvor). Trolley lines that has conducted the poll were: 92 (Barajul Dunarii - Vasile Parvan) and 79 (Bd Basarabia - Gara de Nord). Tram which conducted the poll were: 27 (Complex RATB Titan - Piata Unirii) and 41 (Piata Presei - Ghencea). Metro routes on which the surveyors were: Line 1 (Dristor - Pantelimon) and Line 2 (Berceni - Pipera).

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## 4. CASE STUDY - THE QUALITY OF PUBLIC TRANSPORT SYSTEM IN BUCHAREST

### 4.1. Presentation of the questionnaire

The questions were grouped into the following three packages:

1. questions to identify the individual;
2. quality perceived by the individual;
3. quality desired by the individual.

By identifying the desired quality, can be proposed methods for improving the public transport system based on real needs of travelers.

In the absence of such information you may optimize the aspects which do not necessarily contribute to meet the needs of users, which would lead to wastage of funds and materials from suppliers unable to provide a service tailored to consumer demands. Also, it is important to know the opinion of casual passengers regarding the perceived quality of the transport system. The reason necessary to identify perceived quality is to find the best ways to improve the system.

Also, it is important to know because the user profile on the basis of current occupation, sex, residence, etc., you can blend the responses thereby facilitating generalization. For example, if the respondent is a student, the frequency with which they use public transport is high, because it goes to the education unit using public transport service throughout the week. So all students, respectively students who use public transport have almost the same features.

According to studies of the respondent and his financial situation is determined the different levels of the perceived quality, emphasizing a high level of exigency, in the case of individuals with higher education compared to those with secondary education.

In the questionnaire were addressed several issues to capture the key factors in choosing the means of transport and therefore in choosing public transport service. A category is represented by the questions that highlight the the reasons why respondents choose or not to use public transport.

Other issues addressed were the identification of customer relationships with employees, the availability of travelers to adapt a new policy of price, the type of transport that moves individuals to certain specified destinations, the quality of public transport defined by: comfort, frequency, speed , price, security, availability, etc.. In the drafting the questionnaire were observed basic rules and a simple formulation, clear and easy to understand the questions, without interpretation.

**4.2. Data analysis and information obtained from research**

After collecting and interpreting the results obtained after completing the questionnaires on the quality of public transport service, travelers perception of the actual and thire desired quality , we found that there are people with opposing opinions or unsafe, leading to a certain margin of error of the final conclusion drawn.

The first question asked to the individual indicates age. As noted above, the minimum age permitted participation in this poll is 18 years and maximum age is 65 years. So, there were 54 persons aged 18-25 years, 50 people aged 26-35 years , 38 persons aged between 36-45 years, following that in the 46-55 years period to fit 26 people, and finally, between 56-65, to be found 46 people (Figure 2).

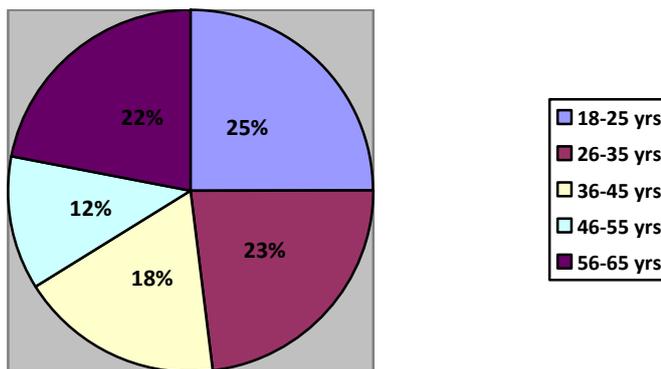


FIGURE 2 - PERCENTAGE OF RESPONDENTS BY AGE

A second question reveals the sex of individuals surveyed, respectively 117 male respondents (54.6%) and 97 females (45.4%) (Figure 3).

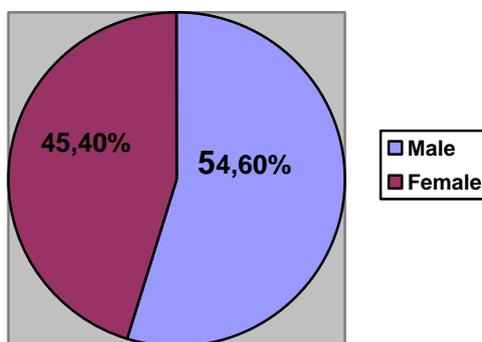


FIGURE 3 - GENDER OF INDIVIDUALS

The next question provides information on the individual residence. It is found that most of the individuals surveyed domicile in Bucharest, which is normal. This makes transport service users residing in Bucharest to have a difficult word to say to improve public transport systems analyzed (Figure 4).

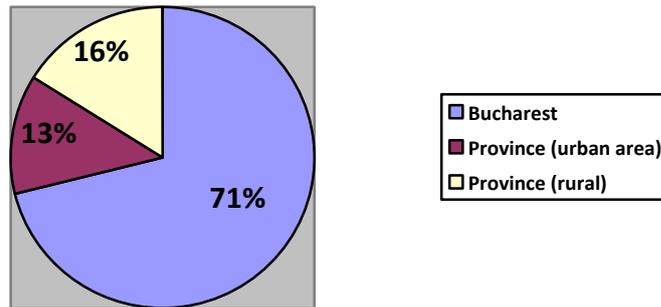


FIGURE 4 - DISTRIBUTION OF RESPONDENTS ACCORDING TO DOMICILE

In terms of educational level, 27% (approximately 58 people) had secondary level as last school graduated, 41% (about 88 people) secondary and 32% (approximately 68 persons) higher level (Figure 5). The highest percentage is the secondary level, followed by the value level and then the primary. As is seen in Figure 5, of those who graduated last school in secondary level, the majority is represented by students (25%) and a very small proportion of the unemployed (about 1%) and pensionares (about 1%).

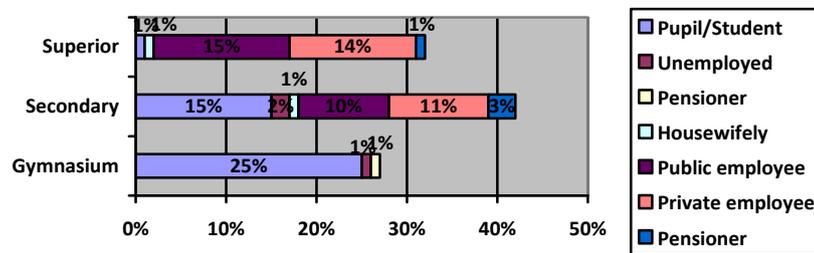


FIGURE 5 - EDUCATIONAL LEVEL CORRELATED WITH CURRENT OCCUPATION

Of those who graduated from high school (as last school), mostly are students (15%), and public sector employees (10%) or private (11%).

Among those who have graduated from university, the majority is made up of public sector employees (15%) and private (14%).

To complete the profile of the respondent, was taken into account and the current occupation. So 27% of respondents are pupils / students, 25% are employed in public sector 21% employees in the private sector, 4% unemployed, 6% of those households, 14% pensioners, 3% other categories (Figure 6). Highest proportion is represented by students, followed by public and private sector employees. We deduce that, especially during the week, public transport service is used mainly on routes linking residential areas to educational institutions (schools, colleges, universities.) respectively the jobs of employees.

Another important aspect is the percentage of monthly income of each individual assigned to transport. The answer will quantify the monthly income of the traveler. So, approximately 15% of respondents said they did

not allocate any percentage of income for the RATB or Metrorex services (Figure 7). In the this category respondents fit students studying at Universities of State and they are budgeted because they have a 50% discount for being students and 50% discount because they are budgeted. Also in this category are included and some private sector employees, who receive full reimbursement of the subscription.

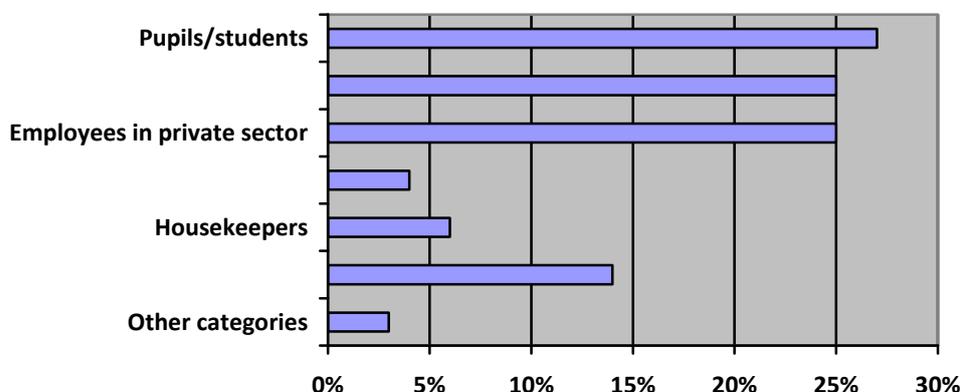


FIGURE 6 - DISTRIBUTION ACCORDING TO TRAVELERS OCCUPATION

Considering the monthly subscription price is 50 RON all RATB lines and a monthly subscription price for the underground transport is 25 RON for pupils and students and 50 RON for other passenger, the amount allocated to an individual for public transport is 100 RON, if using both underground and surface transport. But a small percentage of the population have both monthly. So about 75% of those surveyed spend less than 5% of monthly income for transportation, percentage which includes all respondents with appropriate occupations. Over 10% of monthly income, allocate about 10% of respondents, including the unemployed category.

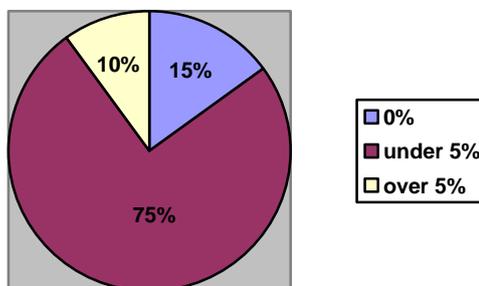


FIGURE 7 - PERCENTAGE OF MONTHLY INCOME ALLOCATED TO PUBLIC TRANSPORT

To find out the availability of individuals to use public transport service in detriment of their car must identify those who are offered a car but they use public transportation means and those who wish or not to use the car at the expense of public transport local . In order to clarify these issues were formulated questions which shows both the availability of means of transport use and the reasons why would not use public transport

service. It is important to know whether respondents have a car that moves occasionally or frequently. So, 41% of those surveyed responded that they provide a moving car (31% of them move frequently and 10% occasionally), while 59% are not in a position to have available vehicle (Figure 8).

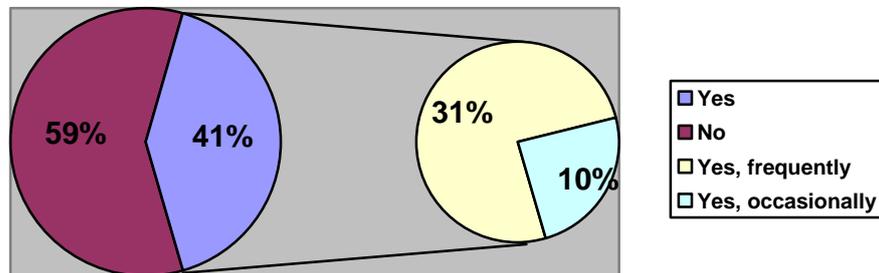


FIGURE 8 - PERCENTAGE OF RESPONDENTS WHO HAVE / DOES NOT HAVE A CAR AVAILABLE

Those who replied affirmative were asked in what situation do they fit. They offer three different standard. So out of the 88 respondents, 21% said they used company car, 37% have personal car and the remaining 42% said they use the family vehicle (Figure 9).

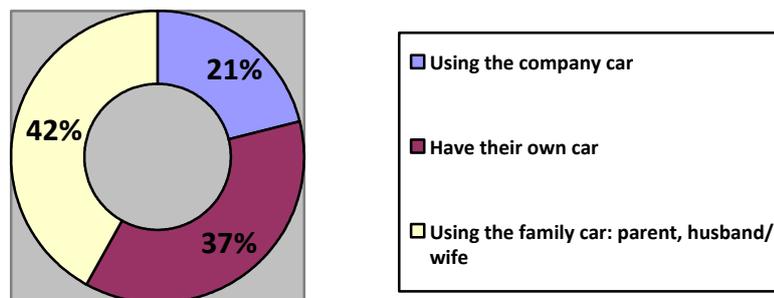


FIGURE 9 - STATEMENTS THAT USE PUBLIC TRANSPORTATION, BUT IT HAS A CAR AVAILABLE

Given the results, we see that less than half (42%) of those using vehicle are not in possession of a personal car, actually using the family vehicle. Why they travel with public transportation is that not being the only user of the car they are forced to resort to other means of transport. Also, there is a category of people turning to public transportation (such as subway) for convenience or because of the slowed traffic on the surface.

The answers to the new question provides information about how often respondents use public transportation. The purpose of this question is to highlight the travelers most used way of public transport. So representations obtained on the basis of identifying possible means of transport is not sufficient for required among travelers and those who they are overburdened.

On this question, those surveyed responded, on each vehicle with: daily, several times a month, seldom, never. For bus, were recorded following values: 45% of respondents travel daily, 39% a few times a month, 16% and 0% rarely ever.

Regarding the tram, they obtained the following results: 41% daily flow, 45% a few times a month, 14% and 0% rarely ever.

Trolley got 28% in daily trips, 37% a few times a month, 35% and 0% rarely ever.

The Subway recorded the highest percentage in daily trips, 82%, 13% a few times a month, 5% and 0% rarely ever.

The results are relatively balanced in terms of daily use of the bus, tram and subway. The difference is made by the trolley, which has a low daily rate of passengers in relation to other modes of transport. The reason is that the inventory in the case of trolleybuses park is the smallest compared to other types of vehicles. Neither trams are in great numbers, but covers a wider area, and their routes are usually very long, compared with the trolley route (Figure 10).

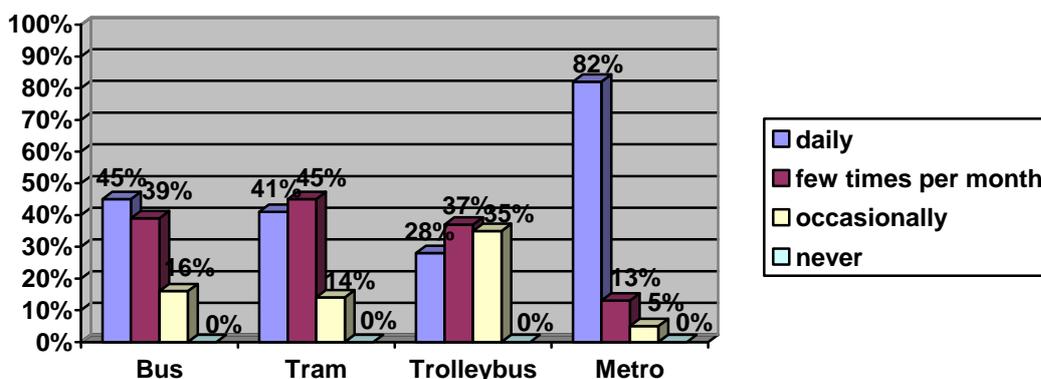


FIGURE 10 - THE FREQUENCY OF USING VEHICLES DEPENDING ON THEIR TYPE

The next question tries to identify means of transport which respondents travel from home to the most important destinations: work, school, supermarket (market, etc.).

So to work, in general, 25% of respondents travel by bus, 16% by tram, 8% by trolleybus, 29% by metro, 18% with personal or family car, 1% by taxi and 3% with other means (see figure 11).

For school / college, in general, most travel by bus and subway, and 30% and 33%, 11% by tram, trolley 8%, 9% walk, 3% with the car and 3% with families vehicle and other means .

To store, supermarket sites, etc. markets., Respondents tend to move at a rate of 36% by car, 13% by bus, tram 11%, 24% by metro, trolley 4%, 2% taxi and 10% on foot.

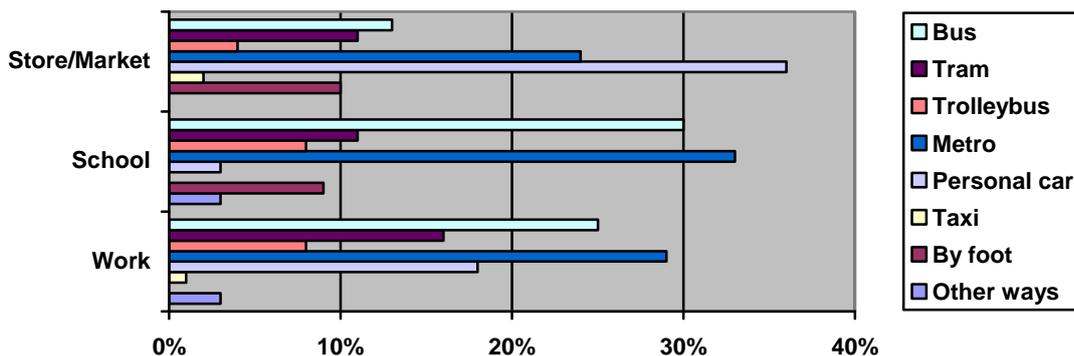


FIGURE 11 - CATEGORIES OF VEHICLES USED FOR MAIN DESTINATIONS

In terms of negative situations that affect the most the travelers, those who have accumulated the most points long periods of time to expect the transportation means in stations (in which 143 people responded, representing 66.8%), followed by the crowded traffic (which amounted points from 132 respondents, representing 62%), lack of subway stations in some areas (opinion expressed by 67 respondents representing 31%) and not least the minimum safety and comfort during peak hours, where the percentage of was 59% from 126 people.

Last situation actually reveals the insufficient number of vehicles on the road during peak hours (Figure 12).

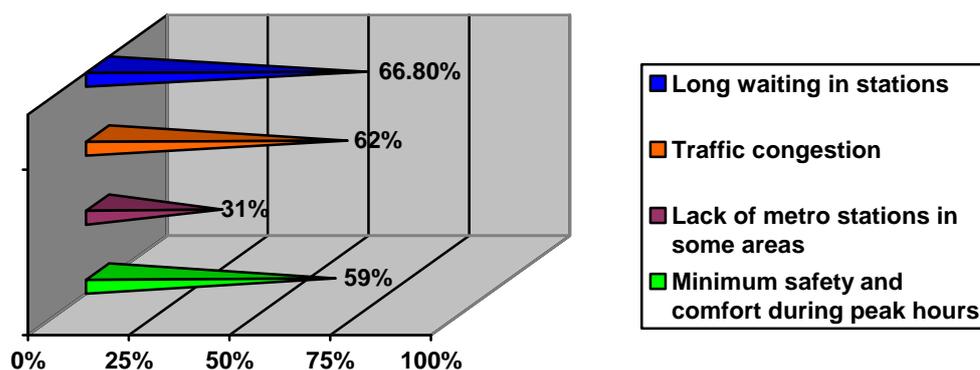


FIGURE 12 - PROPORTION OF SITUATIONS THAT NEGATIVELY AFFECT THE TRAVELERS

To measure the safety degree that you feel traveling, the next question to ask in order to get answers is was the traveler the victim of a attempted theft . The purpose is to identify the safest and the most uncertain type of transportation about which will be taken to increase security measures.

Therefore in terms of bus, 29% of travelers said they had been the victim of theft or attempted theft. Tram out to be the unsafe transportation, 27% of respondents were victims of theft / attempted theft. In buses, only 14% said they had witnessed such incidents. The subway is the safest means of transport as evidenced by the very small number of individuals who stated that they were the victim of theft - 3% while 97% were

denied, the reason being the existence of security and protection in every train and every input in the subway station (figure 13).

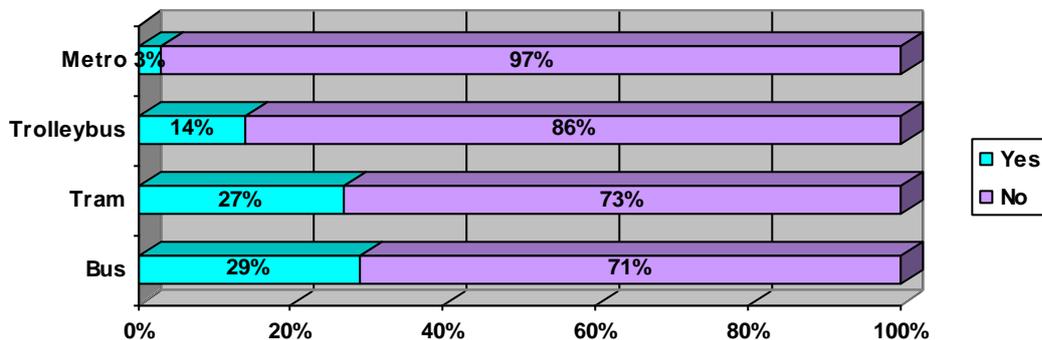


FIGURE 13 - THE SAFETY BY PASSENGERS FELT IN DIFFERENT MEANS OF TRANSPORT (WERE OR WERE NOT THE VICTIM OF AN THEFT / ATTEMPTED THEFT)

Travelers were then asked do they find a journey by public urban transport. Respondents had three response options. Therefore 14% of passengers traveling by RATB felt comfortable, 65% crowded, but acceptable, while 21% consider it extremely crowded and uncomfortable. Given the results, it is found that the majority has a relatively good impression on the surface transportation urban transport, but the impression can be improved (Figure 14).

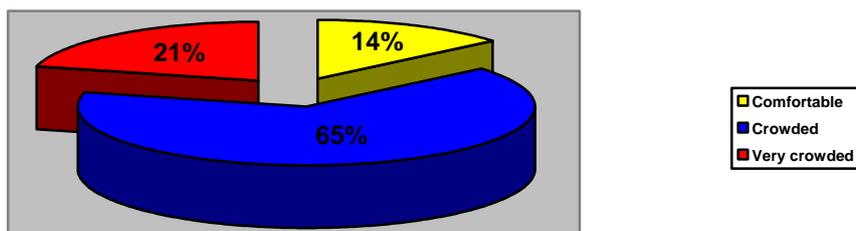


FIGURE 14 - THE IMPRESSION FELT BY RATB USERS CONCERNING THE JOURNEY BY PUBLIC TRANSPORT

When asked how do they find a subway ride, the situation was as follows: 32% of respondents considered the subway journey as comfortable, 59% consider it crowded but acceptable, while only 9% consider it extremely crowded and uncomfortable (figure 15).

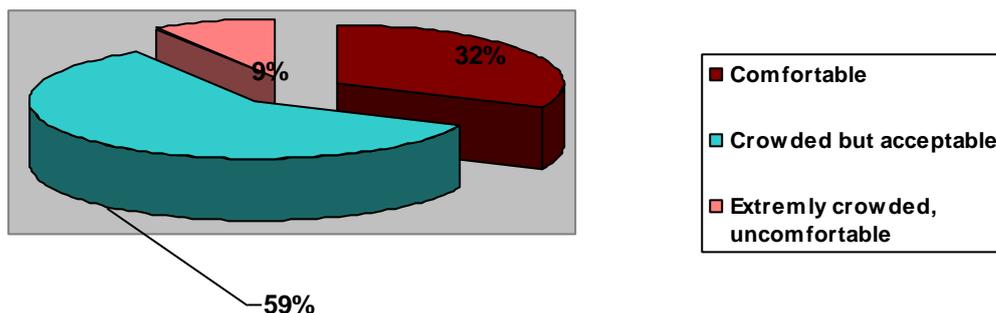


FIGURE 15 - THE IMPRESSION FELT BY USERS CONCERNING THE JOURNEY WITH SUBWAY

The next question concerns how respondents perceive the price of travel / subscription on one route? The result was as follows: 20% considered as very high price, 66% found it accessible, 9% think the price is very low, while 5% abstained from giving an answer (Figure 16 ).

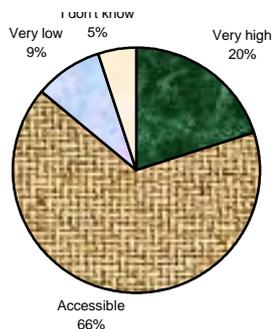


FIGURE 16 - THE OPINION OF TRAVELERS CONCERNING A TRIP PRICE / METRO SUBSCRIPTION

An important element in providing quality transport service, which has no direct connection with the journey itself, is the attitude of staff towards customers. A percentage of 61% of respondents satisfied with Metrorex and RATB staff attitude, 32% were unhappy, and 5% shall refrain from giving an answer (Figure 17).

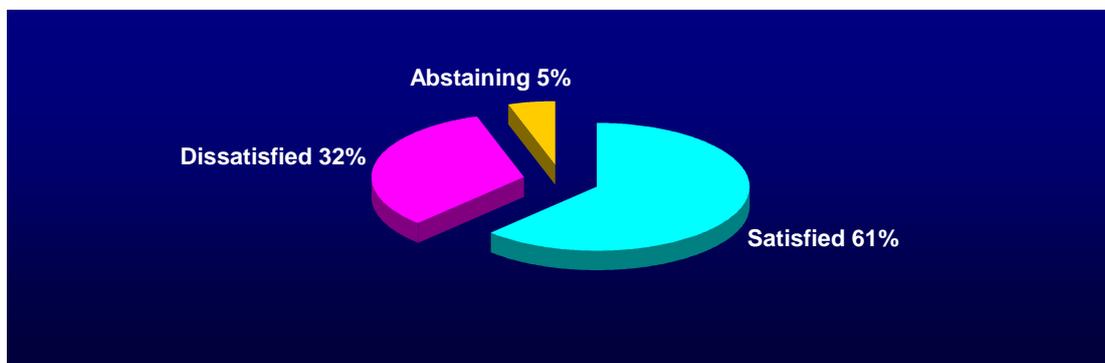


FIGURE 17 - THE OPINION OF RESPONDENTS ON EMPLOYEE ATTITUDE

Is then addressed the general satisfaction felt by travelers on public transport service in Bucharest. Respondents were asked to express their opinion regarding both RATB and Metrorex. Therefore about RATB they provided these answers: 24% are totally satisfied by the urban transport services, 65% and 11% are not satisfied . As such, the highest percentage is represented by travelers satisfied, leading more to the need to take measures to increase urban transport service quality.

On Metrorex, 82% of respondents say they are fully grateful, 16% approximately grateful and only 2% are totally disgrateful.

The conclusion that emerges is that most users Metrorex requirements are met (Figure 18).

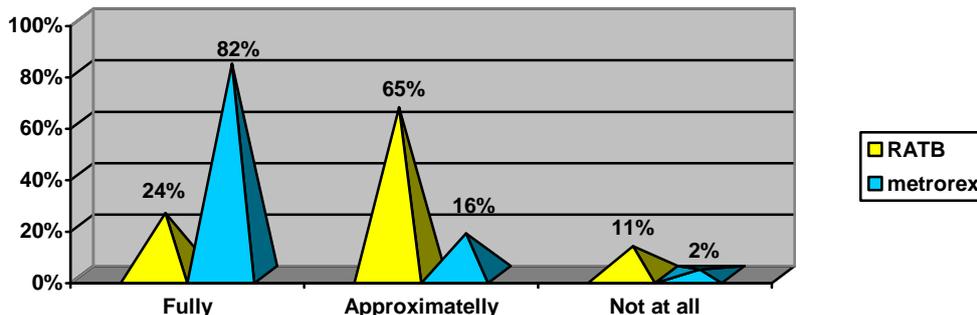


FIGURE 18 - THE SATISFACTION FELT BY THE PASSENGERS ON URBAN TRANSPORT SERVICES AND THE METROREX TRANSPORTATION

Regarding the pollution from transport, 76% of respondents believe that this is a community problem, 13% believe that this problem does not affect the community, while 11% did not know what to answer (Figure 19).

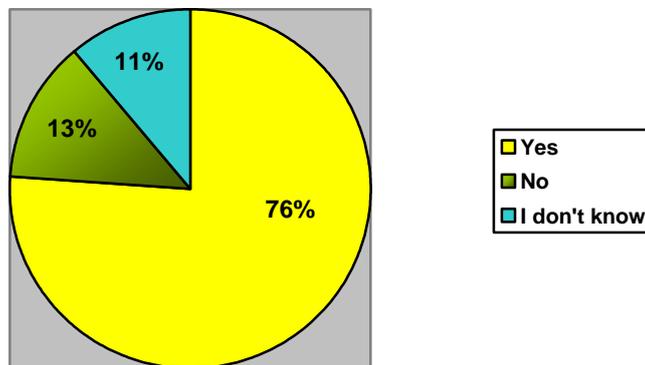


FIGURE 19 - OPINION OF RESPONDENTS ON THE IMPACT OF POLLUTING VEHICLES ON THE COMMUNITY

It is especially important that the population is aware of the effect of car traffic on the environment. The interest shown into reducing pollutant emissions must be both from the users and from the transport operators and the authorities.

To identify the availability of travelers to bring a contribution to environmental protection, travelers were asked if they consider to purchase less polluting vehicles, meaning higher rates for transport service.

Although 76% of respondents felt that pollutant transport is a community problem, this time only 28% are willing to contribute financially to live in a cleaner environment, the remaining 72% are willing to accept a higher price of subscriptions, like purchasing tickets for travel of less polluting buses (Figure 20).

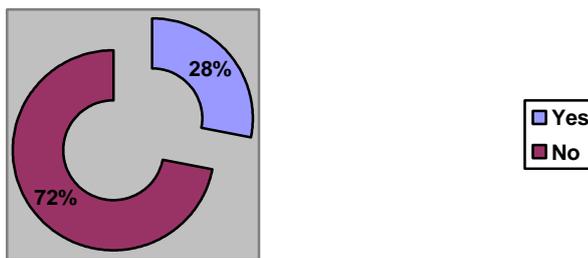


FIGURE 20 - THE AVAILABILITY OF FINANCIAL IMPLICATIONS OF THE RESPONDENTS ON ENVIRONMENTAL PROTECTION

Another question was related to acceptance / rejection of the citizens regarding some restrictions on personal vehicle use, to reduce harmful emissions and thus protect the environment.

Therefore, 40% of respondents said they would agree to adopt such measures, 57% disagree and 3% abstaining (Figure 21).

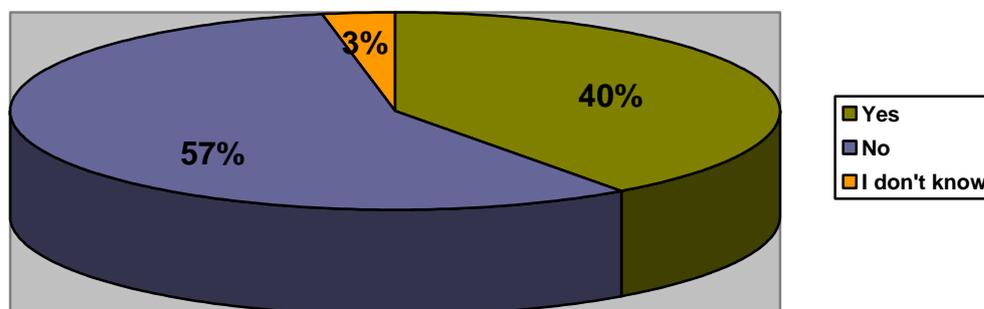


FIGURE 21 - APPROVAL / DISAPPROVAL OF RESTRICTIONS ON CAR USE

Many of the respondents would like to travel by car if they would have the possibility (if they have enough money to buy a car, maintain it, if they have driving license, etc..). Over 50% ( 56%, accounting for a total of 120) of respondents said yes to this question, while 41% responded negatively. Only 3% had no opinion (Figure 22).

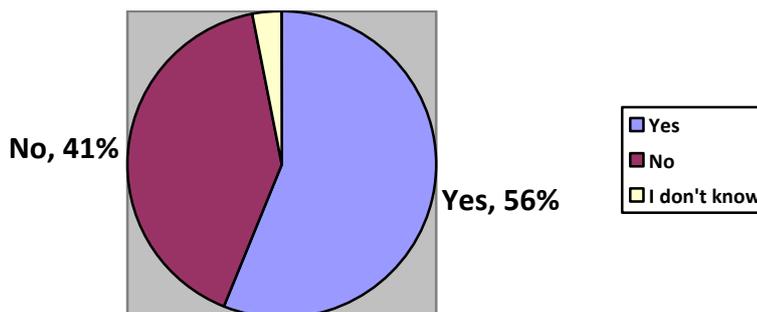


FIGURE 22 - THE OPINION OF RESPONDENTS ON TRAVELLING BY CAR IN BUCHAREST

In order to identify the reasons why some respondents do not want to travel by public transport, they were required to answer an additional question: to indicate three main reasons for not using public transportation means. The causes which most of the 120 respondents who answered yes above have shown, is too long duration of the journey ( 75% who responded), followed by the excessive congestion (68% responders) and "You can not know how longer you will wait at the station" ( 60% responders) (Figure 23).

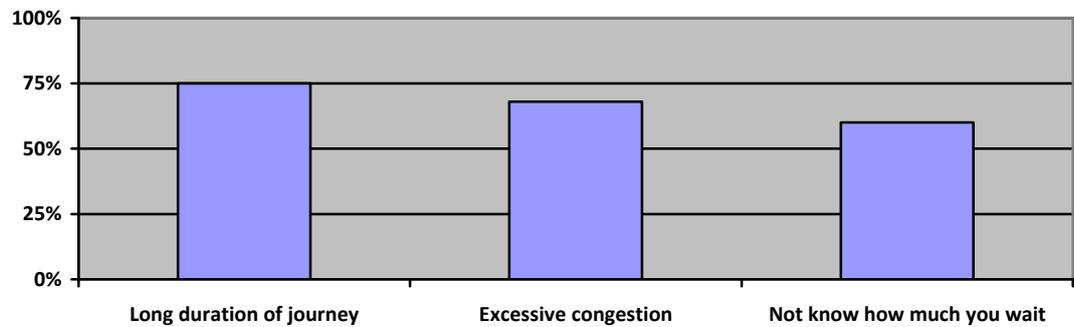


FIGURE 23 - PERCENTAGES OF THE FIRST THREE REASONS WHY RESPONDENTS WOULD NOT USE PUBLIC TRANSPORT

To improve public transport service is necessary to know the factors that would cause citizens to use in a greater extent the local passenger transport. The questionnaire were presented seven proposals for improvement, the questioned being asked to indicate the most important three proposals from their point of view. The classification was as follows: a clean, fast and modern transport service is especially important criterion to obtain a percentage of 39%, 15% more frequent voyages, 12% improved conditions for waiting in stations, 14% the existence of a jukebox in each station, 11% lower price, free travel for students, pupils, pensioners, and people with disabilities 5%, buses equipped with platforms for persons with disabilities 4% (figure 24).

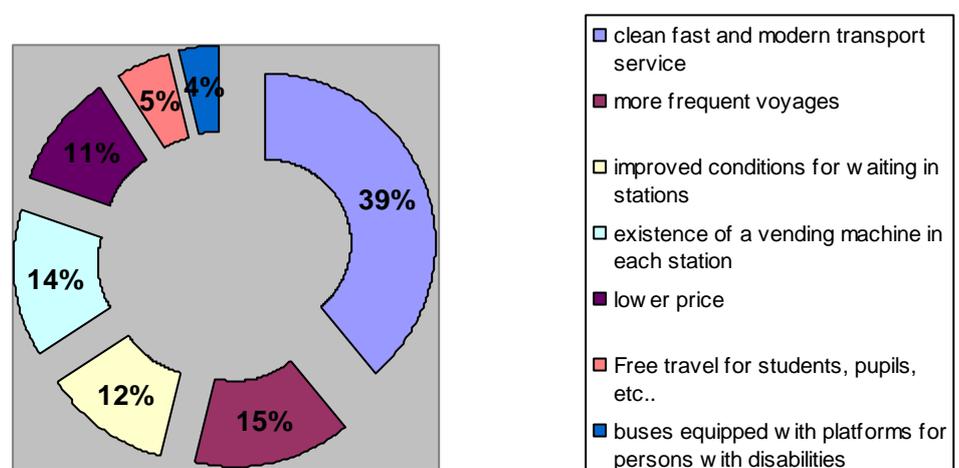


FIGURE 24 - THE FACTORS DETERMINING THE MOST COMMON USE OF PUBLIC TRANSPORT

Average waiting time at the station, is a basic element in defining quality public transport service. Thus, 71% believed that this time should not exceed 5 minutes, 24% think we should wait 5 to 10 minutes, while 5% said that according to them, in average, should be of 10 - 20 minutes (figure 25).

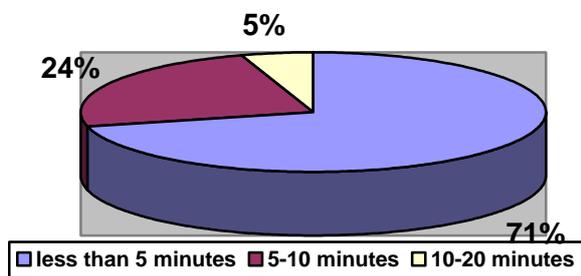


FIGURE 25 - AVERAGE WAITING TIME IN STATION

The following questions identify the most important measures to improve the surface transportation. So 66% of respondents felt that they needed more means of transportation during peak hours, 10% considered it necessary to single color, 8% considered necessary to increase traffic at night, 10% introducing new lines and 6% more means of transport on weekends (figure 26).

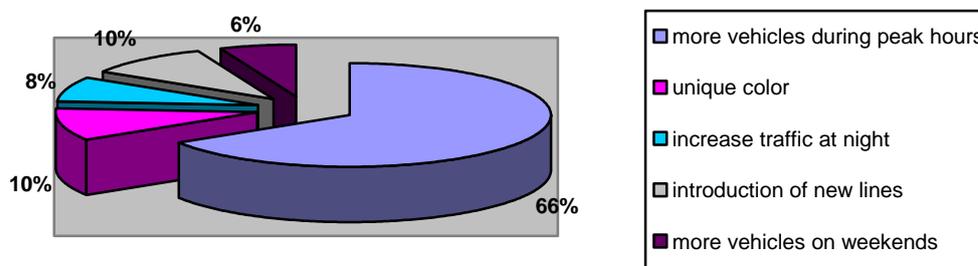


FIGURE 26 - MEASURES TO IMPROVE THE SURFACE PUBLIC TRANSPORT

On the last question, travelers were surveyed about their opinion on the following problem: to insert a price policies that targets the practice of higher rate during peak hours on condition that the transport will be improved? 66% of respondents agreed with the introduction of such policies, 32% opposed, and 2% abstained (Figure 27).

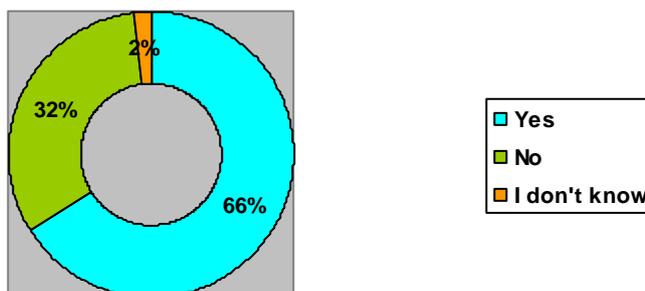


FIGURE 27 - THE OPINION RESPONDENTS ABOUT PRACTICING A NEW PRICE POLICY

### 4.3. CONCLUSIONS

Public transport in Bucharest faced over time with a series of economic and administrative challenges.

The analysis performed is particularly useful because the results reflect the views of passengers on the bus service that they use. At the same time the results offer the possibility of identifying measures to improve the situation. Also identify gaps and their solutions immediately after release, is a great advantage in dealing with quality requirements of consumers.

The conclusion that emerges is that even though the travelers, in most , are satisfied with local public transport service, they still want an improvement in their quality.

Improving quality and efficiency of public transport are very important issues. Solving them is absolutely necessary to identify travelers and solve their wishes, in extent possible. this sense, reducing waiting time at stations, increased means of transportation, especially during peak hours, either by increasing the circulating park assets, by creating unique color, prioritized the introduction of traffic lights, traffic control systems, etc.. , are essential issues to be taken into account.

Also, public transport will be more likely to be used by the general public, if the partner services will be offered at affordable price but high quality can not be achieved by charging a low price. It is preferable to reach a middle ground situation so that they can ensure the optimum quality at an affordable price, but not too small.

On the other hand, to ensure a quality transport system is mandatory and compliance requirements imposed by EU directives, which consider, first, developing a sustainable public transport and environmental protection.

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