

The Colour Scheme Design – Identity Element for Urban Public Transport

Silviu TEODOR-STANCIU¹

Abstract: *The paper highlights the importance of the selection of the colour scheme for public means of transport in order to answer the sensory, identity and functional requirements proper for each urban centre. With a powerful impact on the social environment, public means of conveyance tend to be related to – in time – the image of the city of origin. Adopting a unique colour scheme represents a significant step in integrating the vehicles into the urban aesthetics and, also, in visually signaling them in the crowded traffic. The principles of choosing the unique colour scheme and the design strategy are presented throughout a case study applied in Iasi, started in 2015 and still continuing. The social-cultural implications of the project generate a progressive improvement of the quality of the travel experience and city image.*

Keywords: *design; colour scheme; urban identity; aesthetics; public transport system;*

Introduction

The continuous growth of big cities, both nationally, as well as globally, is leading directly to the growth of people migrating from the rural environment to the urban one, aspect which imposes the development of the public transport systems. In this context, signage strategies were elaborated for a better administration of transport networks, thus establishing clear regulations of passenger stop signage, of specific markings and of the way in which public means of transport are visually treated. Either one speaks of buses, trams, light trains and not only, they are painted in signalling colours, shades easy to see in traffic, which individualise the public means of transport among the other ones, an important aspect not only for the traffic participants, but also for the passengers waiting in stops. Warm colours such as yellow, orange, red are amongst the most used ones, followed by green and blue, mainly used in combination with white, black and grey. One can identify criteria of choosing colours which can form a unique chromatic scheme, such as: a colour spectrum specific from a heraldic point of view, space-time factors, cultural factors, historical ones, etc. Choosing the colour in what concerns the mass transit industry is not a notion which has to be according to auto and fashion trends, but has to represent the result of certain theoretical and practical research, based on studies, discussions and design concepts. Beyond the technical, functional role, the unique colour scheme becomes part of the visual identity belonging to the public transport companies and, thus, to the city of provenance.

1. Methodology

The results for the current paper were obtained during two research phases, the first one taking place between 2013 and 2015 and the second one between 2015 and the present moment.

¹ Faculty of Visual Arts and Design, "George Enescu" University of Arts, Iasi, silviuteodorstanciu@gmail.com.

The first phase meant using a horizontal research, on independent samples, using methods such as observation, inquiry, testing. The research began by documenting public transport systems in Romania and big European cities, dates on the way of conceiving and implementing the unique colour scheme on a wide variety of vehicles, with volumetric particularities being collected. Afterwards, longitudinal studies were conducted, the evolution throughout time of applying the colour scheme being documented and the all the alterations being thoroughly analysed in order to be classified. Several criteria of classification of the unique colour schemes have resulted, according to historic, heraldic, climate factors and after cultural, architectural and geo-industrial values. Once these criteria were established, a study case dedicated to the Iasi Public Transport Company was initiated, continuing through experimental research which led to the generation of 30 design concepts. These concepts were realised with the involvement of the students of the Design Specialisation of the FAVD Iasi, coordinated by the undersigned during the workshop entitled Revitalisation of public transport means from Iasi. The results were analysed, processed and interpreted, an appropriate version for all types of vehicles from the CTP fleet at that moment being realised.

The first phase continued through the unitary repainting, in an experimental manner, of a bus and a tram (test project) and through an opinion survey, ended with the affirmatively in relation to the adopting of the unique colour scheme proposed for CTP Iasi. The first part of the first phase continued with the second one which meant extending the process upon the entire vehicle fleet of CTP.

The second phase of the research means the analysing and identification of adaptation solutions of the unique colour scheme on the new ordered vehicles. Thus, simulations and discussions with the producers from Poland, Turkey and China were required in order to personalise the new trams and buses purchased between 2021 and 2023.

2. The Colour Scheme Design for Urban Public Transport

In the context of the development of big urban centres, globally, public transport systems are also in a continuous development and adaptation, in order to respond to a broader range of needs. In a world where competition, in any domain, is a fierce one, the public transport area cannot be left aside. Thus, transport means are chosen according to price, technology and design. One of the most important factors which contribute to a long term success of a vehicle of this type is the experience of the passenger from the moment he/she gets on until he/she gets off the vehicle. Thus, throughout the final years, one could have noticed a significant growth of the interest in what concerns the attention given to materials, technology and any other processes which can aid design to fit the user's aesthetic perception.

Obviously, the first thing which the passenger manages to notice when looking at a transport vehicle (outside/inside) is the colour. Various studies have shown, throughout time, the way in which colour can influence a person's lifestyle. This is exactly why, if a trip by train, bus or tram cannot offer a state of comfort – not only physically, but also psychologically – to someone, than why should that person wish to repeat the travel experience with another vehicle other than the personal one. Both design, as well as human experience are based on the notion of colour, fact which determines a growth in the attention offered in the choice of colours for a project.

Choosing the colour scheme influences the evolution of public transport companies because the future colour will give personality to the vehicles, creating at the same time certain feelings and sensations both to passengers, as well as to other people in traffic. Also, when

choosing colours, it is necessary to keep in mind the area for which the project is created, most of the times, the identity of a city, the culture of the area and the environment being the ones which clearly influence the choice made by designers. In many of the European countries the colours found on the city's coat of arms, synthesis of its identity elements, have dictated the colour scheme applied on the public transport vehicles.

Other criteria for choosing the colours are the duration of a trip, the reason and the scenery. If the duration of a trip is average or long, such as in the case of commuters, then the colours must be some to offer a state of calmness. If the transit area is one with an impressive scenery, the interior colours must not distract the attention from what can one admire through the window, and in the case when the area is not quite a generous one or even a neutral, grey one, the interior has to be the one to replace the need for colour of the human eye. Also, in case of vehicles which take short trips in the urban environment, with high congestion areas, it is recommended the use of bright colours with a signalling role. For example, in Manchester, one of the largest cities in Great Britain, the dominant colour in the visual identity of the Metrolink local public transport company is yellow. Thus, in the context of dark urban environment, result of the mediaeval architectural legacy and the specific weather instability, adopting a warm colour such as yellow leads to a contrast effect and visual comfort. Another suggestive example can be found in the city of Marseille, France. The trams have wide windows, in order to offer passengers the possibility of admiring the architecture of the port city. If the exterior of the vehicles is similar to the ones of the ships through shape and colour, the mainly blue interior offers a marine feel.

Colour in the mass transport industry is not a notion which has to be related to the tendencies of the auto field, choosing the colour spectrum being made through market studies, interviews of the beneficiaries/passengers and creating alternative concepts. Adapting the exterior colour spectrum to the interior of vehicles can be made through a good knowledge of materials, which can offer various visual effects, not only through colour, but as well through texture. Moreover, with the aid of lighting sources, certain areas from inside of a transport vehicle can receive depth or brightness through this rhythm of colour and light.

3. Case Study: CTP Iasi Unique Colour Scheme

With a powerful impact on the social environment, public means of transport begin, in time, to be associated with the image of the city of circulation. Adopting a unique colour scheme for public transport means of the Iasi Public Transport Company (CTP) has represented a significant step for integrating the vehicles in the urban aesthetics of Iasi. A very important aspect in finishing the project was the choice of the colour spectrum in full accordance with the identity elements of Iasi.

One can see further on a brief presentation of the main historical, cultural, urban identity elements of Iasi, which were analysed in order to identify the colour spectrum specific to the local public transport system. An important cultural, economic and academic centre, Iasi can be considered to be a city of national premieres, this being the place where the first modern university, the first printing press, the first botanical garden appeared, the urban development of the 18th – 19th centuries taking place after reference examples from western Europe. Thus, in Iasi the basis were set for certain wide programs of planting trees along the main boulevards or in public gardens, today's Carol I boulevard being known at the time as the *Green Bridge*². According to historical sources, the Green Bridge referred to a street bordered by many elegant gardens made under the

² Bogdan, N.A. 2004. *Oraşul Iaşi - monografie istorică și socială, ilustrată*. Iași: Editura Tehnopress, pp.445-464.

reign of Grigore Matei Ghica and, later on, under the one of Ion Calimah. The scholar Gheorghe Asachi, considered to be one of the greatest Romanian landscape architects of all times, revolutionised the city's development and modernisation process, applying technical solutions adopted from the great European capitals. Founder of the first school with teaching in Romanian, well-known for establishing the Polytechnic School in Romania, Asachi redesigned and made, along with his students from the School of Roads and Bridges, the Copou Boulevard in 1812. According to professor Mandache Leocov, the creator of the Botanical Gardens Iasi, Asachi "saw in Spain a great boulevard, the one that led to the Escorial in Madrid, and he designed the one in Copou after a similar concept, but he planted linden trees". In 1833 Asachi designed and founded Copou Park which was later administered by the Polish architect Grabovenschi. He continued the process of planting the linden trees in the entire city, Iasi gaining in time the nickname of *City of linden trees*. Despite the extension and forced industrialization of the city in the communist period, the name of Iasi is equated to the idea of vegetation. Given that many neighbourhoods do not ensure the minimum of vegetation per inhabitant, the large forest areas near the city (Copou, Bucium, Ciric, Cetatuaia) manage to outline the special feature of *green city*³.

Choosing green as the main colour in the design process of the identity of public means of transport of CTP Iasi (Fig.1.) is also sustained by its significance in the urban context: balance, visibility, freedom, cleanliness, and last, but not least, ecology. 126 years old, Iasi public transport has started its existence along with the use of the first AEG electric trams, these being delivered to Iasi in a special colour scheme, made of three shades of green⁴.

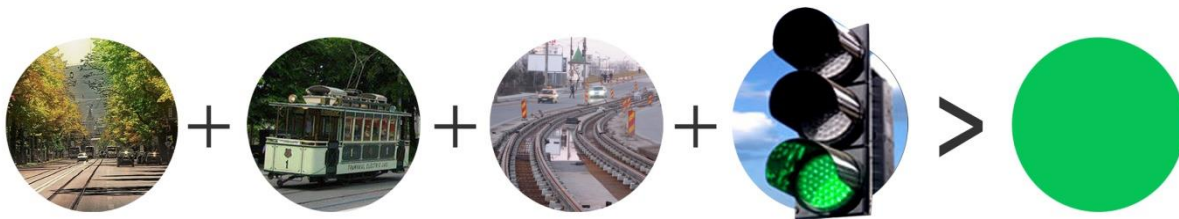


Fig. 1. Identity elements of Iasi which are the at the base of choosing green as the main colour in the unique colour scheme of the public means of transport (Source: Silviu Teodor-Stanciu)

The tram represented throughout time the main transport mean, the network being extended in the big neighbourhoods of Iasi. After the railway rehabilitation works, made in the last decade, this turned back into the main transport mean in Iasi. Sustainable, economical and silent, the tram is by excellence an ecologic vehicle, the idea of adopting green managing to emphasize the development direction of Iasi public transport through the care for the environment, but also through the conservation and even revitalization of cultural and architectural values. The unification of the colour scheme of CTP Iasi vehicles will create more cohesion at the level of the entire urban tissue, outlining at the same time the transport company's identity. Identifying green with CTP Iasi leads to the association with terms such as ecology, friendship, trust and respect⁵.

³ Hosey, Lance. 2012. *The Shape of Green: Aesthetics, Ecology and Design*. U.S.A.: Island Press, pp. 13-29.

⁴ Teodor-Stanciu, Silviu. 2023. *Iași – istoria tramvaiului/ Tram History*. Iași: Editura Junimea, pp. 6-9.

⁵ Teodor-Stanciu, Silviu. 2021. *Tramvaiul, expresie a relației între designul de produs și estetica urbană*. Iași: Editura Sedcom Libris, pp. 74-81.

A very important aspect in realizing the project is represented by the interior design of the vehicles. The passenger’s direct contact with furniture elements from the interior of trams and buses imposes the maintenance of certain minimum hygiene conditions. The use of a high quality fabric, washable and resistant to wear leads to, in a long term, the maintenance of the welcoming aspect of vehicle, essential criteria in attracting people to use public transport and not personal vehicles. Personalizing the tapestry according to the representative elements of Iasi, both chromatically, as well as graphically, implies the full integration of vehicles in urban aesthetics, potentiating the city’s architectural and cultural values. Creating an integrated identity⁶ brings many benefits, from improving the city image to stimulating citizens and tourists to use public transport. In this context, the project ”Aesthetic revitalization of public means of transport in Iasi”⁷ appeared (Fig. 2.).

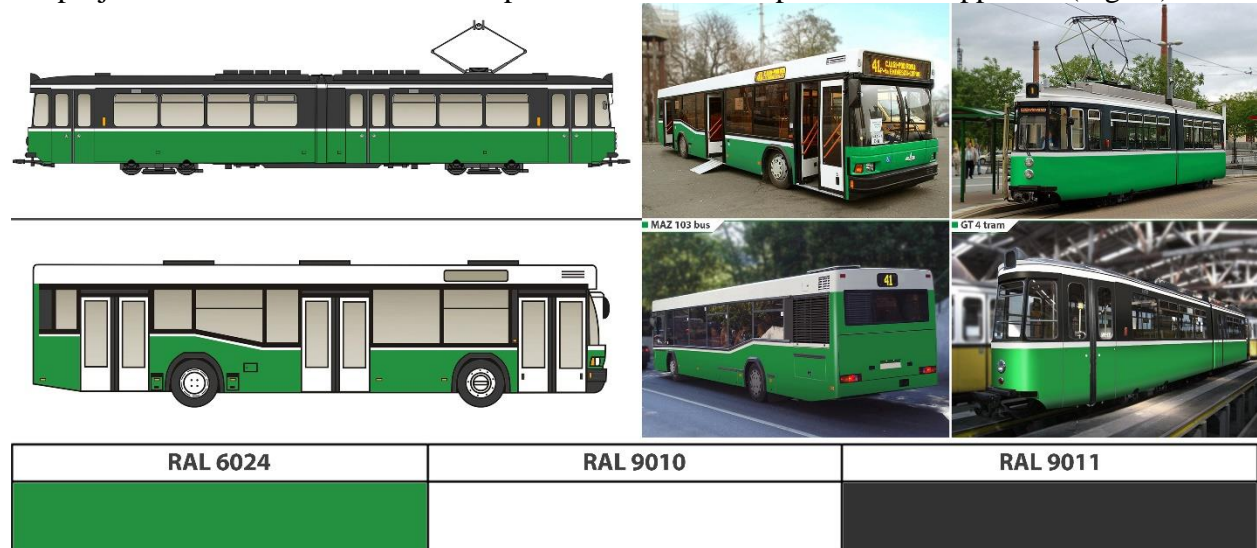


Fig. 2. Graphic simulation - the application of the unique colour scheme on the most representative types of transport means of CTP Iasi (Source: Silviu Teodor-Stanciu)

The project, carried out by Tramclub Iasi NGO in partnership with CTP Iasi and two private companies as sponsors, was developed in two phases⁸:

- Phase I, Part 1 (pilot project): investments in the personalized repainting and reupholstering of chairs according to the chromatic scheme of two public transport vehicles (*GT 4* tram and *Den Oudsten Alliance City* urban bus);
- Phase I, Part 2: expansion of the repainting process in all CTP Iasi vehicles; expansion of the chair reupholstering process in all CTP Iasi vehicles.

The project aims to:

- Integrate public means of transport in the urban aesthetics of Iasi;
- Improve the image of Iasi and CTP Iasi through the public means of transport;
- Individualise CTP Iasi public means of transport as compared to private transport companies;

⁶ Hjelm, Sara Istedt. 2002. *Semiotics in Product Design*. Stockholm: CID, Centre for user oriented IT design, pp. 21-25.

⁷ Teodor-Stanciu, Silviu. 2021. *Punți semiotice între arhitectură și design*. Iași: Editura Sedcom Libris, pp. 92-111.

⁸ Lidwell, William, Holden, Kritina, Butler, Jill. 2003. *Universal Principles of Design*. USA: Rockport Publishers, p. 16.

- Improve the travel conditions quality by chairs reupholstering;
- Grow the number of passengers due to the improvement of travelling conditions.
- Create premises for later optimisation from an economic perspective of vehicle painting activities and chair upholstery due to the standardization of the vehicle park from the point of view of used colours and fabrics;⁹
- Create a practical classes point for students of the Faculty of Visual Arts and Design of the “George Enescu” National University of Iasi.¹⁰



Fig. 3. The results of the survey. The result of the personalization through repainting according to the unique colour scheme (Source: Silviu Teodor-Stanciu)

Phase I of the project ended with the official presentation of two CTP vehicles, a tram and a bus, rehabilitated at the exterior by repainting the body in the unique colour scheme and at the interior, by changing the upholstery of chairs. After the public presentation both vehicles started to work on a regular basis. In collaboration with FEAA (the Faculty of Economics and Business Administration) of the “Alexandru Ioan Cuza” University of Iasi, Tramclub Iasi NGO initiated an opinion survey for the people of Iasi regarding the official adoption of the unique colour scheme for the entire vehicle park. The questionnaire was completed by 1857 people, out of which 12 did not express their option and thus, they were eliminated. Out of the respondents, 1739 (94,3%) said they agreed with the project and 106 (5,7%) were against it (Fig. 3.). The unique colour scheme was officially adopted in January 2016.

Phase II of the project started in this context, in the first six months of the year five trams being personalised at the exterior by applying the unique colour scheme. The vehicle repainting process continued gradually, along with the general revisions. CTP Iasi assimilated the visual identity project, green-white colours being found in the company’s logo and, implicitly, in all its promotion materials. The acquisition of the new public means of transport was made in accordance with the project’s specifications, the green-white colour scheme being adapted to the volumetric particularities of each type of vehicle. Also, the specifications regarding the colour spectrum of

⁹ Papanek, Victor. 2018. *Design pentru lumea reală Ecologie umană și schimbare socială*. București: Editura Publica, pp. 285-325.

¹⁰ Pralea, Jeni, Sficlea, Magda, Pop, Monica, Șoltuz, Elena, Buraga, Silviu. 2010. *Ecodesign*. Iași: Editura Artes, pp. 103-110.

the interior design were respected, in accordance with their implementation capacity by each producer.

4. Conclusions

In the context of the transition towards a public transport at current standards, presenting its development perspectives and trends in an European university and cultural centre, in Iasi, the identity elements of the local public transport service were established, in order for a sustainable development of it in relation to the environment and urban aesthetics.

In the six years from the implementation of the project “Aesthetic revitalization of public means of transport in Iasi” one can see a constant growth of the number of passengers, as well as a grown addressability of tourists who choose to use the public transport service. Applying the unique colour spectrum on all CTP info materials, on all info points and ticket selling points, creates a sign network at city level, easy to follow and use. Also, economically, the project had a meaningful impact on the optimization of the maintenance expenses of the vehicle fleet. The chromatic unification process, as well as the one concerning the seat upholstery led to the possibility of purchasing high quantity of materials for reduced prices. The buying level was reduced with approximately 15%. The existence of the materials in stock also led to the improvement of the necessary repairs quantified in time, an essential aspect in the field of public transport.

Applying the project in 2016 made it easier for the acquisition of new chromatically personalized means of transport. In September 2021 the new Pesa Swing trams started to function, trams which were painted in the green-white unique colour scheme, followed by the Bozankaya trams, the Solaris Urbino and ZTE Granton electric buses in 2022 and 2023, integrating in the aesthetic urban identity of Iasi (Fig. 4.). The project is in a perpetual dynamics in relation to the constant expansion and renewal of the fleet of public means of transport.



Fig. 4. The unique colour scheme applied on the new fleet of means of transport:
Solaris Urbino E bus, ZTE Granton bus, Pesa tram, Bozankaya tram
(Source: Silviu Teodor-Stanciu)

Acknowledgements

Special thanks to the Tramclub Iasi NGO, Iasi Public Transport Company, the Faculty of Visual Arts and Design of the “George Enescu” University of Arts, Iasi, National Paints factory, the Faculty of Economics and Business Administration of the “Alexandru Ioan Cuza” University, Iasi, PESA Bydgoszcz SA., tram factory - Poland, Bozankaya Company, tram factory - Turkey, Solaris Bus & Coach, bus factory - Poland, ZTE Corporation, bus factory - China, delivered in Romania through BMC Romania company.

5. References

• Books

- Bogdan, N.A. 2004. *Oraşul Iaşi – monografie istorică și socială, ilustrată*. Iași: Editura Tehnopress.
- Hjeltn, Sara Istedt. 2002. *Semiotics in Product Design*. Stockholm: CID, Centre for user oriented IT design.
- Hosey, Lance. 2012. *The Shape of Green: Aesthetics, Ecology and Design*. U.S.A.: Island Press.
- Lidwell, William, Holden, Kritina, Butler, Jill. 2003. *Universal Principles of Design*. USA: Rockport Publishers.
- Teodor-Stanciu, Silviu. 2021. *Punți semiotice între arhitectură și design*. Iași: Editura Sedcom Libris.
- Teodor-Stanciu, Silviu. 2021. *Tramvaiul, expresie a relației între designul de produs și estetica urbană*. Iași: Editura Sedcom Libris.
- Teodor-Stanciu, Silviu. 2023. *Iași – istoria tramvaiului [Tram History]*. Iași: Editura Junimea.
- Papanek, Victor. 2018. *Design pentru lumea reală. Ecologie umană și schimbare socială*, București: Editura Publica.
- Pralea, Jeni, Sficlea, Magda, Pop, Monica, Șoltuz, Elena, Buraga, Silviu. 2010. *Ecodesign*. Iași: Editura Artes.