



## THE IMPACT OF THE RIGHT CHOICE OF FABRICS ON USERS OF PUBLIC TRANSPORT

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**Abstract:** *The paper presents the role and importance that the right choice of materials has on the final result of the design process of the interior of public means of transport. Establishing a balance between technical restrictions and the user's perception on the interior space can be seen in the presentation of a case study on the project “Co-working Tram” made in 2018, part of the cultural project “Iasi – City of Painted Trams”, initiated by designer Silviu Teodor-Stanciu. The study emphasizes the optimisation of the identification process of seats upholstery, adapted for a mean of transport with multiple functions. The choosing and personalisation of the upholstery fabrics is made taking into account the graphic theme, the predominant colour and last, but not least, the resistance of the fabric to tear, each seat from a public mean of transport being used daily by an average number of passengers. The study presents the advantages of using synthetic leather for the seat upholstery of public means of transport not only for the resistance to tear, but also for the various possibilities of personalising the fabric through printing press printing. Through this procedure one can quickly obtain various visual effects, with minimal investments in comparison to conventional techniques. Also, the study shows the fact that the personalisation of trams is realised with the implication of volunteer students of the Design Department, emphasizing once more the importance of applied traineeship.*

**Key words:** *design process, interior design, personalised upholstery, synthetic leather, public transport.*

### 1. INTRODUCTION

The design process of the interiors of public means of transport is a very strict one on what concerns the ergonomics of the furniture, respecting the passing aisles, the arrangement of sustaining elements and the choosing and placement of the lighting system. The process of choosing the fabrics and finishes is also a strict one, due to the fact that it has to ensure the functional part through visibility, washable, anti-adhesive features, and to offer the passenger a raised level of comfort through colours and textures. In order to encourage the citizens to use the public transport system, the project “Iasi – City of Painted Trams” was created in Iasi, a project initiated by Tramclub Iasi NGO with the support of the local transport company and the “George Enescu” National University of Arts, Iasi. The project has as objective the personalisation of the trams of Iasi with the help of volunteer students of the Design Department, under the guidance of designer Silviu Teodor-Stanciu. Also, the project offers students the opportunity to get involved, through applied traineeships, in the aesthetic part of Iasi, having a direct contact with the economical environment. Thus, students of the Industrial Design, Graphic Design, Interior Design and Textile Design departments work together and interact with professionals from the field, experience which is training them for their future designer career.

## 2. GENERAL INFORMATION

### 2.1 Context

The project “Iasi – City of Painted Trams” includes currently 12 means of public transport themed personalised, among which the most representatives being the Union Tram, the Media Tram, the Literature Tram, the Education Tram, the Ia (National blouse) Tram, the Centennial Tram and the Co-working Tram (Fig. 1).



*Fig. 1: “Iasi – City of Painted Trams” project - themed personalised means of public transport*

Apart from the exterior personalisation, the transport means were also modified on what concerns the interior design. The modifications do not interfere with the arrangement of the inside furniture, nor of the supporting elements. The changes of the interior refer to replacing the seat upholstery, adding some accessories (shelves, library bookshelves, monitors, etc.), elements which can correlate the hall’s aspect with the message conveyed by the tram’s exterior themed personalisation. The choosing and personalisation of the upholstery fabrics is made taking into account the graphic theme, the predominant colour and last, but not least, the resistance of the fabric to tear, each seat from a public mean of transport being used daily by an average number of 1.000 passengers.

### 2.2 Case Study

The Co-working Tram (Fig. 2) was created in 2018 in order to support and pass on the values of the International Movement of Co-working in the community of Iasi, movement initiated in 2005 by Brad Neuberg in San Francisco, USA. Co-working represents a social-professional binder, which prevents the isolation of freelancers inside their home environment, leading to the efficiency of working schedule and the growth of work quality. Co-working also means a working style which implies a common working space, most often for people who have related occupations.

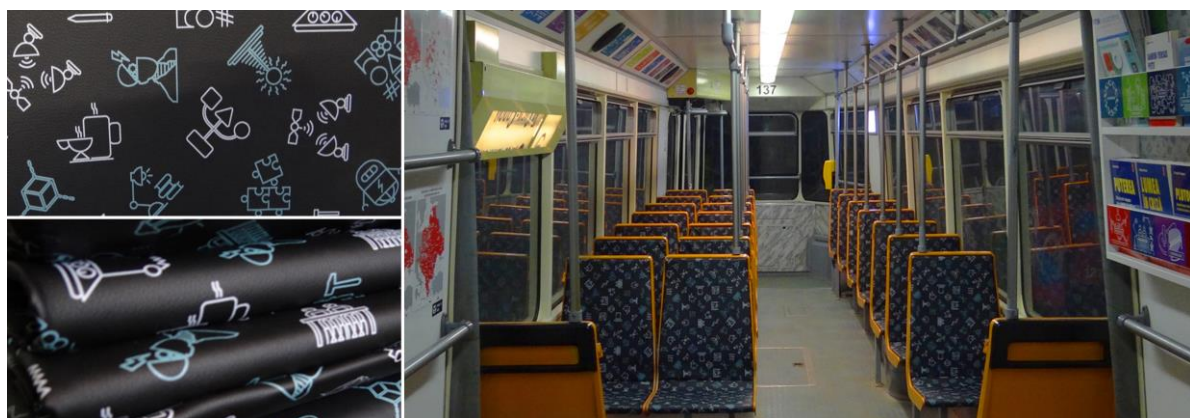
The graphic composition applied on the tram presents, through visual language, the constituent elements of the Co-working movement: community, connection, communication, synchronization, technology. The composition is marked in the middle by a linear graphic element of big scale, which suggests the interference between domains, these being chromatically marked by placing a dynamic colour – turquoise near a non-colour – white. Aiming that the tram could be used temporarily as a hub or mobile conference space, the vehicle was improved with free wi-fi and seven sockets placed in the interior in order for passengers to charge their phones and laptops. Also, in the articulation area, a mini-library was placed, containing publications from the economic and IT area.



*Fig. 2: The personalisation process of the Co-working Tram*

### 2.3 Choice of Fabrics

The intervention with the biggest impact on the aesthetic shaping of the interior was the replacement of the seat upholstery. The seats were covered with synthetic leather<sup>1</sup>, a fabric which does not retain odours<sup>2</sup>, can be easily cleaned and does not need much time to dry after the cleaning process such as conventional textile fabric upholstery (plush). By using this fabric one creates the visual analogy with the image of the elegant office chairs. Black synthetic leather was chosen for this project, which is in contrast with the orange frame of the seats and which also offers elegance to the interior. For a superior mechanic resistance the chosen leather was placed on a textile rack, this type not damaging the fabric's flexibility<sup>2</sup>. The fabric's finish imitates the texture of cattle leather<sup>3</sup>. The fabric was later personalised with suggestive graphic elements taken from the exterior composition, rearranged in a pattern<sup>4</sup> proportionate to the seats size (author: Architect Tiberiu Teodor-Stanciu). The synthetic leather was printed<sup>5</sup> in two colours (white – turquoise) at a local printing press (Fig. 3). Samples of the printed fabric were submitted to the physical-chemical and physical-mechanical tests ordered by the beneficiary. The fabric was tailored and applied on the detachable racks of the seats by mechanic sewing<sup>6</sup> and gluing of the seams with an adhesive made of chloroprene rubber, phenol resin, solvents and additives. The fabric was mildly tensed in order to take the shape of the sponge layer of the seat profile. All the 43 seats of the tram were processed in the sewing department of the Public Transport Company in Iasi.



*Fig. 3: The personalisation process of the interior through the upholstery*



### 3. CONCLUSIONS

The Co-working Tram was publicly presented on the 13<sup>th</sup> of May 2018, the project being a point of attraction for the local co-working hubs and the multinational companies in Iasi, but also in Romania. Shortly the tram was rented by Google and Fablab Iasi in order to hold a dynamic, unconventional conference. Thus, the guests from Romania and from abroad had the opportunity to attend the conference and visit Iasi in the same time. The partial redesign of the interior, the placement of monitors, of sockets and the possibility to connect to the internet have transformed the tram into a moving conference space (Fig. 4).

The interior atmosphere was completed by the personalised upholstery of the seats, which offered the guests a physical and visual comfort. The usage of highly qualitative fabrics, carefully engraved and processed, can radically change the perception on an interior space, a normal tram ride being able to transform into a positive, memorable experience.



Fig. 4: Digital Bloom Conference which took place in the Co-working Tram

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