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Permanently temporary. Street experiments in the Torino Mobility Lab project / Staricco, L., Verlinghieri, E., VITALE BROVARONE, E.. - In: TEMA. - ISSN 1970-9870. - ELETTRONICO. - 17:3(2024), pp. 159-167. [10.6093/1970-9870/10934]

Availability:
This version is available at: 11583/2991221 since: 2024-07-26T18:57:58Z

Publisher:
FeDOA - Federico II University Press

Published
DOI:10.6093/1970-9870/10934

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25 November 2026

TeMA

Journal of
Land Use, Mobility and Environment

print ISSN 1970-9889 e-ISSN 1970-9870
FedOA press - University of Naples Federico II

DOAJ anvur Rivista scientifica di classe A - 08/F1 Scopus WEB OF SCIENCE



Special Issue 3.2024

Living and Walking in Cities

New challenges for sustainable urban mobility

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TeMA Journal of
Land Use, Mobility and Environment

Special Issue 3.2024

Living and walking in cities: new challenges for sustainable urban mobility

Published by
Laboratory of Land Use Mobility and Environment
DICEA - Department of Civil, Architectural and Environmental Engineering
University of Naples "Federico II"

TeMA is realized by CAB - Center for Libraries at “Federico II” University of Naples using Open Journal System

Editor-in-chief: Rocco Papa
print ISSN 1970-9889 | online ISSN 1970-9870
Licence: Cancelleria del Tribunale di Napoli, n° 6 of 29/01/2008

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Cover photo: Herrengasse street in Graz (Austria), baroque pedestrian avenue and centre of public life, provided by Michela Tiboni (June, 2024)

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Living and walking in cities: new challenges for sustainable urban mobility

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TeMA Journal of Land Use, Mobility and Environment

TeMA Special Issue 3 (2024) 159-167
print ISSN 1970-9889, e-ISSN 1970-9870
DOI: 10.6093/1970-9870/10934
Selection and double blind review under responsibility of "Living and Walking in Cities 2023" Conference Committee.

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www.tema.unina.it

Permanently temporary. Street experiments in the Torino Mobility Lab project

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Abstract
Street experiments introduce changes in the use, regulation or form of streets with the aim of triggering systemic shifts in urban mobility from motorized traffic to active travel and more livable public space. Generally intended to be temporary at implementation, street experiments may be repeated over time or even become permanent, depending on their success. This paper analyses four experimental road reallocation interventions that were implemented in August/December 2020 in the Italian city of Turin, as part of the *Torino Mobility Lab* project. These pedestrianizations were implemented in a temporary, experimental and low-cost way for four months, during which a monitoring activity was launched in order 1) to measure the use and the perception of the value of these temporary pedestrianizations in order to decide whether or not to make them permanent, and 2) to collect data on the ways they were used, as well as suggestions from their users for the design of the permanent versions of those that would have been confirmed. The paper analyses this monitoring/evaluation process and identifies some barriers and factors that can complicate and slow down the transition from temporary to permanent street reallocation.

Keywords
Street experiments; From temporary to permanent; Pedestrian areas.

How to cite item in APA format
Staricco, L., Verlinghieri, E. & Vitale Brovarone, E. (2024). Permanently temporary. Street experiments in the Torino Mobility Lab project. *TeMA - Journal of Land Use, Mobility and Environment*, (3), 159-167. http://dx.doi.org/10.6093/1970-9870/10934

1. Street experiments

Streets fulfil two main functions. Firstly, they enable public life: they host social interactions related to fundamental urban functions, such as play, leisure, shopping and so on (Bocca, 2024; von Schönfeld & Bertolini, 2017). Secondly, they accommodate competing flows of various – motorized and non-motorized – transport means. In recent decades, the latter function has been prioritized in most urban areas at the expense of the former, in parallel with the establishment of the dominant paradigm of automobility (Gössling et al., 2016; Norton, 2015). However, especially in the past few years, two main crises stressed the urgency of rethinking urban streets. First, the necessity of mitigating climate change requires reducing car use and parking, so to promote a modal shift away from carbon-intensive to low-carbon modes of travel (Brand et al., 2021). Second, the Covid-19 pandemic highlighted the importance of freeing up outdoor public spaces for activities that are no longer feasible in restricted indoor spaces when social distancing is required (Abdelfattah et al., 2022), as well as the value of active travel for exercise (Nurse & Dunning, 2020).

As a consequence, an increasing number of cities are experimenting with street-space reallocations in favor of walking, cycling and public transport (D'Amico, 2023; Lahoorpoor et al., 2022). These "street experiments" use intentional, temporary changes in street functions, regulation and/or form, to explore systemic change in urban mobility, away from "streets for traffic" and towards "streets for people" (Bertolini, 2020). One of the recognized advantages of these experiments is that they allow testing new temporary, quick, low-cost solutions, assessing their results and impacts, and then deciding whether to promote these solutions in permanent versions. At the same time, some authors (see, for example, Bragaglia & Caruso, 2020) point out that street experiments can turn out to be a way out for administrations and local leaders to continue promoting neoliberal policies. Because of this ambivalence, it is important to assess the results of temporary street experiments through a public transparent process, particularly when they are supposed to later become permanent if successful (Campisi et al., 2020; Sadik-Khan & Solomonow, 2017).

Till now, in the academic literature on street experiments, particular attention has been focused on pedestrianizations, in relation to both their impacts on mobility patterns and their "stationary" uses, such as playing and socializing. However, these studies generally examine the effectiveness of pedestrianized streets in their permanent and structural version (which is normally provided with street furniture, trees, benches etc.; see, for instance, Campisi et al., 2020; Davis, 2020; Mehta & Bosson, 2021); on the contrary, poor attention is generally paid in the literature to monitoring and evaluating their temporary versions.

In response, this paper aims to critically analyze the monitoring and evaluation processes of *Torino Mobility Lab* (henceforth, TML), an experimental project aimed at promoting active mobility in the San Salvario neighbourhood of Turin, Italy. In the framework of this project, four portions of streets in the neighbourhood were temporary and "experimentally" pedestrianized (Section 2). During four months, the use of these new public spaces was monitored and evaluated to decide whether to confirm the pedestrianization or not (Section 3), as well as to obtain suggestions and indications for designing the permanent versions of these street portions (Section 4). The analysis of this process offers an overview of some barriers and factors that can complicate and slow down the transition from temporary to permanent street redesign.

2. The *Torino Mobility Lab* project

Turin is the capital of Piedmont region, in the North-Western part of Italy. It is the fourth most populated Italian city, with around 867,000 inhabitants in the city and 1.8 million in the functional urban area. The city is highly car-dependent, to some extent because of the dominant role historically played in Turin by the car company FIAT: the car ownership rate exceeds 650 cars for every 1,000 inhabitants (one of the highest in Europe); the modal share of private motorized mobility is 39%, compared to 24% of public transport and 3% of cycling (EMTA, 2021). Walking has a modal share of 34%, with a high level of walkability thanks to the continuous provision of pavements along nearly the whole street network and the presence of pedestrian

areas (0,62 sqm per inhabitant). In the last twenty years, these areas were expanded in the historical core of the city, in particular around monuments and museums, while they are still quite scattered and discontinuous in the outskirts.

In 2016, the Italian Ministry of the Environment issued a call for funding[1], aimed at promoting walking and cycling and reducing traffic, air pollution, and vehicle parking near schools and workplaces in Italian cities. The City of Turin responded to this call by presenting a project, titled *Torino Mobility Lab* (TML), which focused all its measures and economic resources in one of the city's neighbourhoods, with the aim to test an approach that, in case of success, could be progressively replicated in the other parts of the city. The chosen area was San Salvario, a semi-central, densely populated neighbourhood located at the edge of the historic city centre. San Salvario was selected for its structure (a dense and mixed neighbourhood developed on a regular grid of streets, suitable for adopting a superblock-like approach) and for the presence of a large number of local associations, very inclined to sustainable mobility issues.

The TML initially mainly focused on promoting cycling, through a mix of hard and soft measures. However, after the pandemic outbreak in 2020, the City shifted this focus to pedestrianizing 11 portions of the neighbourhood's streets, in order to offer local schools and associations new public spaces, free from cars, where to perform outdoors those activities that could no longer be carried out indoors due to social distancing. Seven of these interventions merely widened the existing pavements. In the other four cases (Fig.1), entire portions of streets – each located near a school or an association – were closed to cars in August/September 2020, in a temporal, low-cost form (by simply placing planters at their extremes, to prevent car traffic). The City defined these closures as an "experiment", supposed to last four months until 31st December 2020, when they should have been re-assessed on whether to confirm them in a definitive form.



Fig.1 The four pedestrianised areas in the San Salvario neighbourhood (in green)

The four temporary pedestrianized areas were:

- *Corso Marconi*. It is the oldest tree-lined street in Turin, traced in the XVII century to connect the San Salvario church and the Castello del Valentino (which now hosts the academic departments of Architecture and Spatial Planning). It has a boulevard structure, with a central large lane and two minor side lanes separated from the central one by a line of trees. Only a portion (240 mt) of the central lane

[1] "Experimental national program for sustainable home-school and home-work mobility". Retrieved from: https://www.mase.gov.it/sites/default/files/archivio/allegati/mobilita_sostenibile/dm_28_07_2016_208_mobilita_programma_sperimentale.pdf

was closed to cars using planters where a perpendicular street crosses it; the lateral lanes are still open to cars. One of the four blocks lining the street is occupied by a school complex, which includes a kindergarten, a primary and a junior-high school. Two of the other three blocks accommodate on their ground floor 13 shops; three of them (a cafè, a restaurant and an ice cream shop) installed dehors under the trees. About twenty wooden benches have been placed in the pedestrianized area;

- *Via Principe Tommaso*, 66 meters long, corresponding to one block, with pavements all along. It is adjacent to a nursery/kindergarten; a restaurant, some shops (a hairdresser, a clothes shop, a furniture atelier etc.) and a cultural club are located along the street. Because of a private driveway, the street was closed to cut-through traffic placing planters at its two extremes spaced so as to allow a car to reach the driveway;
- *Via Lombroso*, 60 meters long, corresponding to one block, with pavement all along. At one of its corners is located the headquarter of an association promoting cross-cultural engagement (ASAI), which had been organizing outdoor activities for children and teenagers on the street's pavements since a long time; the rest of the street is full of shops (a café/bike shop, an atelier for furniture refurbishing, a greengrocer, a hairdresser). The pedestrian area has been marked using two planters at one extreme and another couple just after a driveway, so to allow cars to reach it more easily. After the street was closed, the café/bike shop equipped itself with a dehors; the ASAI also placed some removable equipment for its outdoor activities and commissioned a painting on the surface of the street and on the two central planters;
- *Via Morgari*, 42 meters long, corresponding to about half a block, with pavement all along. It is adjacent to a Catholic church and connected through a small garden to the so-called 'Neighborhood house', a local cultural center. The pedestrianized portion of the street was closed by a couple of planters at its two extremes.

3. Assessing temporary pedestrianizations

The 2016 Ministerial call for funding required that each proposed project could be funded only if it included "activities aimed at measuring the actual degree of success of the actions implemented and the actual use of the services activated and infrastructures implemented, the assessment of the satisfaction of the end users, the measurement of the data required for the ex-post evaluation of environmental benefits". Therefore, TML devoted a part of its total budget to monitoring the impacts of its measures in terms of change of modal split (with particular attention to the share of bike trips) before and after their implementation. At the end of 2019, when the implementation phase of the project started, this part of the budget was used to fund a third party to perform the monitoring activity for one year (from 3rd December 2019 to 30th November 2020), as well as the communication and participation tasks of the project. The monitoring activity was granted to a temporary joint venture (henceforth, ATI – *Associazione temporanea d'imprese*) involving four local associations.

The ATI began its activity by carrying out a survey in the first months of 2020, aimed at assessing the current modal split, residents' mobility needs and the first impacts of pandemic lockdowns on local journeys in San Salvario. When the City modified the overall TML project by giving priority to the experimental pedestrianizations, the ATI accordingly adapted its monitoring activity with a two-fold aim of: 1) measuring the use and the perceptions of the temporary pedestrianizations in order to decide whether or not to make them permanent, and 2) collecting data on the ways in which they were used, as well as suggestions from their users for the design of the permanent versions of those that would have been confirmed.

After the beginning of the experimentation in August 2020, three types of monitoring activities were launched. First, the ATI assessed the use of the pedestrianized areas by adopting two methods developed by Gehl and Svarre (2013). The first method was the so-called "People moving count", through which the number of people (per minute) walking through each of the four pedestrianized streets was measured. Data were collected over

10 minutes on three different days (one between Monday and Thursday, one between Friday and Saturday, and one on Sunday) and in three different time slots (between 8:00 and 9:00, between 18:00 and 19:00, between 22:00 and 23:00). The second method was the "Stationery activity mapping", which detected both how many people were spending time in the analyzed area and which activities (and where) they were performing. These data were collected over 30 minutes; their temporal distribution (days and time slots) had to respect the same criteria used for the people moving count tool. The two tools were applied by 9 times (3 in the morning, 3 in the afternoon, and 3 in the evening) to each of the 4 pedestrianized areas in each of 3 monitoring sessions (September/October 2020, November 2020 and December 2020).

Second, the ATI carried out three surveys in October 2020 to detect local perceptions of the new car-free areas. A questionnaire (both online and in printed version) was submitted to the neighbourhood's residents, asking them whether they believed the pedestrianizations had improved the livability of the four areas and why (or why not). A second questionnaire was submitted to the parents of the students attending the school in front of Marconi Avenue, to investigate whether the pedestrianization had improved the safety levels when students entered/left the school, and how they used the car-free space. As regards the shopkeepers working along the pedestrianized streets, their perceptions were detected through semi-structured interviews.

Finally, three workshops were organized in November 2020 to gather suggestions by 15 stakeholders (selected to represent local associations, residents and shopkeepers) for redesigning in permanent structural terms two of the four pedestrian areas.

The analysis of this monitoring/evaluation process highlighted some critical issues (Vitale Brovarone et al., 2023). The first was related to the content of the experiment. The pedestrianized street portions that were tested in the second half of 2020 were merely implemented by placing planters at their extremes to prevent car traffic, without any redesign of street furniture. They were quite different from the project of the structurally re-arranged streets that were supposed to be permanently realized at the end of the experimentation by placing furniture, benches and so on. It is likely that the uses of the temporary versions of the pedestrianizations monitored through Gehl's methodology were quite different from the ones that will be performed in their permanent versions.

This emerged clearly during the monitoring phase, as the ATI reported: "*There is little point in having pedestrianized stretches of street, leaving them unchanged, without any furniture or greenery or characterization, albeit temporary, which would have allowed citizens to experience and appreciate a different use of public space. Obviously, this perception, which has greatly affected the current evaluations, may change if adequate redevelopment work is carried out. It has to be said, however, that one of the problems noted in the current experimentation has been that the pedestrian spaces […] could not be fully evaluated as effective spaces returned to citizens, usable for social or aggregative uses: they were perceived as 'empty and unconnected spaces*" [ATI, 2020, p. 8, translation by the authors].

This could explain the prevailing negative ratings from the interviews carried out in October 2020 among the residents: only 25% to 40% (depending on the area considered) declared that the pedestrianizations had improved the livability of the closed streets.

A second problem was related to the benchmark for assessing the confirmation of the experimentations. The City did not identify any threshold value neither for the two Gehl's indicators nor for the percentage of interviewees that – in the above-mentioned survey in October 2020 – stated to be satisfied with the experimentation. Without these benchmarks, it was not clear how and why the City decided in November 2020 to confirm three experimentations and conversely to remove the one in Morgari Street. It is true that this latter case recorded the most negative values for all the indicators, but they were not so significantly worse compared to the others. Moreover, also for Principe Tommaso and Lombroso Streets and for Marconi Avenue less than 40% of the interviewees answered that the pedestrianizations had improved their livability. So, when in November 2020 the City presented the projects for the permanent re-organization of three streets and for re-

opening Morgari Street, most local stakeholders were surprised, as they could not understand the motivation behind this decision.

Finally, some concerns were raised regarding the scheduling of the monitoring (August-December 2020). The experimentations started in August, the peak summer holiday season in Italy when most people are away from home: this was locally interpreted as a way to introduce these experiments in a top-down approach, without attracting too much attention from the residents. The surveys to residents, parents of the students of the schools and shopkeepers were held in October, long before the end of the experimentation. Moreover, the decision about the success of the experiments was expected to be taken in December, one of the coldest months of the year (hence, in a moment not favourable to the use of open public spaces); in reality, it was taken in November, one month before the established end of the experiment, also in this case without a clear reason.

4. Moving from temporary to permanent street re-designing

More than six years after obtaining the funding and nearly three years after the decision about confirming (or not) the four pedestrianizations, in November 2023 the TML is finally close to completing its transition from temporary to permanent

The experimental nature of the TML - which was meant to be implemented first with temporary pedestrianizations and subsequently with permanent redesign -, and the urgent need to respond to Covid-19 by reallocating public space, allowed for a rather fast closure to vehicular traffic. However, a long time passed after that step. There are many reasons for the extended time frame for the implementation of the project, and in particular for the transition from simple closure to vehicular traffic to permanent reconfiguration of the pedestrianized streets. These include complications related to the pandemic, the slow bureaucratic process for implementing public interventions, the multiplicity of stakeholders involved etc. But also, and perhaps most importantly, other issues that were less evident at first glance proved to be key factors. These include the multiplicity of instances regarding the use of road space, the presence of conflicts of various kinds, the political implications of the initiative, the complicated governance of the process and the absence of clear leadership (Vitale Brovarone et al., 2023; Verlinghieri et al., 2023).

Undoubtedly, the bureaucratic process of moving to permanent redesign is far more complex than simply closing it to vehicular traffic. However, the analysis of the project development process reveals timeframes that cannot be ascribed only to bureaucratic difficulties. In particular, between the fall of 2020 and the end of 2022, no substantial changes in the configuration of the pedestrianized areas took place. Work on the permanent redesign started in late 2022 and is being completed in Autumn 2023 (Fig.2).



Fig.2 Via Lombroso in the temporary (on the left) and permanent (on the right) version

The final plans for the permanent redesign of the pedestrianized streets have undergone several changes. Given the objectives of the monitoring activities, one might expect that for the final design, the municipality

would have taken into account the suggestions and instances that emerged during the monitoring activities. However, this was not the case, and the redesign in permanent mode was rather the result of mediation between the demands of the institutionally most powerful actors in terms of influence and control on decision-making. In particular, although citizens, schools, and local associations were initially involved in the formulation of redesign proposals, somehow giving the idea that it was a co-design process, the final redesign was the outcome of the interaction between the Municipality and the Superintendence of Archaeology, Fine Arts and Landscape[2]. The former as the beneficiary of the funds and responsible for urban planning and mobility in the city, the latter as responsible for authorizing interventions in contexts that are constrained or protected for their architectural, historical-artistic and landscape value.

Much of the pedestrianized streets in San Salvario are in fact subject to protection under the Cultural Heritage and Landscape Code (D.Lgs. 42/2004). In addition, Corso Marconi is subject to constraint under a regional decree (D.D.R. n. 587/2014). For this reason, while in the initial stages of the project the Superintendence was not involved to a large extent, it played a leading role in the permanent redesign phase, particularly for Corso Marconi but also for the other streets. The Superintendence's requests concerned in particular the protection of scenic views, which affect Corso Marconi as a historic tree-lined boulevard attested to the Valentino Castle on one side and the church of San Salvario on the other, but also some other streets subject to pedestrianization. In addition, the Superintendence required uniformity of design choices in all pedestrianizations, while the City Council had initially opted for diversification. Finally, it required design choices that favoured symmetry, axiality, and the use of low-key colouring that matched the surroundings[3]. The Municipality, on the other hand, had initially envisioned, partly as a result of consultation with schools and associations in the area, large colourful patterns in the style of tactical urbanism, and curved seating.

Another factor that caused the project to be changed from the initial ideas was the budget, which turned out to be insufficient to realize what was planned. As a result, the Municipality scaled down the size of the areas to be coloured[4], limiting them to parking spaces where benches or bicycle racks will be placed. Also, while it was planned to raise the street level to the height of the sidewalk, to give a sense of continuity to the pedestrian area[5], in some cases the raising did not extend for the entire pedestrian area, maintaining the separation of levels where there were driveway accesses. This was both for budget reasons and to highlight the fact that the right-of-way for residents remained in that section (Fig.3).



Fig.3 Principe Tommaso Street in the temporary (on the left) and permanent (on the right) version

2 The Superintendence is a territorial body of the Italian Ministry of Cultural Heritage and Activities. It is responsible for ensuring in the territory of the city and metropolitan city the protection of archaeological, architectural and historical-artistic heritage and landscape.

3 Also in line with the municipal colour plan.

4 Not a simple painting but the laying of a coloured film in material that provides longer life and lower maintenance costs, in spite of a significantly higher cost of implementation.

5 The monitoring had noted the persistence of pedestrian flows on sidewalks given the perception of the street still as something separate from the sidewalk (Verlinghieri et al., 2023).

5. Conclusion

This paper analyzed the transition from temporary to permanent pedestrianization of four street portions in San Salvario, as part of the TML project. Granted ministerial funds in 2017 and launched in 2019, the TML is just now (November 2023) being completed. In August 2020 the road space was experimentally closed to car traffic, in December 2020 the pedestrianizations were confirmed and announced to become permanent. Making them permanent included their redesign to improve their pleasantness and usability for walking, playing, resting etc.

As required by the ministerial call, the project included a phase of monitoring and evaluation of the pedestrianizations. This activity was announced as preparatory to the decision regarding the confirmation of the interventions and their redesign into a permanent version. The monitoring, entrusted by the Municipality to a grouping of local associations, took place between December 2019 and November 2020 and included, despite the advent of Covid, several opportunities for exchange with the local community to detect critical issues, opportunities, and ideas for permanent pedestrianization.

The transition from the temporary to the permanent phase has been a long one. The final results seem to take into account the outcomes of the monitoring to a small extent. Rather, the final version, the design of which has undergone several modifications, is the outcome of mediation and dialogue among the institutionally most influential actors in the decision-making process, making monitoring and consultation with local stakeholders a mere fulfilment of the call's requirement.

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Image Sources

Fig.1: authors;

Fig.2: authors;

Fig.3: authors.

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