## The people at the gates: an analysis of the reasons of pedestrian flow management success in train stations at the Olympic Paris 2024 Games

Capucine-Marin Dubroca-Voisin,\*1,2

<sup>1</sup>AREP Flux et Mobilités, Paris, France <sup>2</sup>LVMT, École nationale des ponts et chaussées | Institut Polytechnique de Paris, Univ Gustave Eiffel, Marne-la-Vallée, France

**Abstract** Please, write here an abstract of 3 to 5 sentences summarizing the main essence of your extended abstract. During Paris 2024 Games, pedestrian flow management in train stations was a major challenge. It was yet successful thanks to a combination of actions and factors that this presentation will explore. Notably, massive use of trained staff, cooperation of passengers, exceptional maintenance and operational resources, and a lower ridership than expected were amongst these key factors.

Keywords pedestrian flow management, Olympic games, train stations, Paris

## Introduction

One of the major challenges during the Paris 2024 Games was the management of pedestrian flows in train stations. The sheer number of visitors and athletes flocking to the city required an unprecedented level of coordination and infrastructure readiness. Train stations, being key nodes in the transportation network, were put to the test with the influx of people. Managing pedestrian flows small stations, such as Vaires Torcy which served the Nautical Stadium, presented its own unique set of challenges. These stations were designed for relatively modest commuter flows and not for major events.



Figure 1: Massive flows at Paris Est station

## Solutions used

Careful flow management plans were built during the years preceding the Games, finding unidirectional solutions in these small stations, designing waiting areas to act as a buffer, and ensuring the connected

 $<sup>^*</sup>$ Email of the corresponding author: capucine-marin.dubroca-voisin@enpc.fr

stations managed the connected flows to avoid overcrowding.

These plans, conceived by pedestrian flow experts, were adapted by local train operators' companies' staff in the months before the Games. Last minute adaptations were also made on the ground to correct the last details. While situation was expected to be potentially uncomfortable if not hazardous, smoothness of the operations was finally highlighted by the external observers. Observations made during the Games show that the massive presence of staff, who were adept at managing crowd situations, resolving issues swiftly, and providing clear guidance to passengers, was a key element to this success. The passengers themselves were highly cooperative and accepted waiting times for this event. Several other



Figure 2: Flow management layout at Vaires-Torcy station

key elements enabled this success. The transport network had been prepared with better maintenance capabilities than usual (for instance higher availability of replacement elements for elevators). There was an organized shortage of drivers before and after the Games to ensure there enough drivers during this period (which can be seen as a moderate sacrifice of the local population during the rest of the summer). A last key element of success was the fact that the number of passengers using public transport was overestimated. Patrons of the Games used public transport a bit less than expected, and travel demand management measures asking locals to avoid the city during the Games period.

Several elements were combined for this success: anticipation, cooperation between stakeholders, precise plans, travel demand management, efficient staff, enthusiastic patrons, quick adaptation, massive supervision, and a bit of luck. The experience from the Paris 2024 Games demonstrated the potential for shared governance and the necessity of treating pedestrian flow management as a common good.

## Methodology

To determine the success factors in this presentation, we used a mix of participant observation (our team being in charge of the first version of the pedestrian flow management plan in train stations, and involved in the design of the solutions in the biggest stations), direct ground observation and data collection, plus interviews with selected stakeholders. We also relied on the numerous press reports reporting the organization of the Games as a success.