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MANAGING THE TEMPORAL COMPLEXITY OF URBAN PROJECTS: THE CASE OF THE PARIS 2024 OLYMPIC GAMES

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Abstract

This article examines the role of temporalities in complex urban projects using the case study of the Paris 2024 Olympic Games. Based on interviews and document analysis, it develops a method, that we call the 'timeline', which highlights how heterogeneous temporalities are coordinated throughout project management. The paper argues that coordination is not given but progressively built through instruments, interactions between actors, and shared frames of reference. The Olympic programme is thus understood as a set of interdependent action systems whose temporal alignment is not given in advance but emerged as a result of the project. The article contributes to planning theory by conceptualising the urban project as a mechanism for coordinating multiple temporalities in situations of uncertainty.

Keywords:

Urban Project, temporality, Paris Metropolitan Area, Olympic Games.

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Introduction

Our work builds on studies that have analysed large-scale urban projects as a major feature of contemporary urban development (Healey, 2006; Salet & Gualini, 2006), and that have emphasised the inherent complexity of such projects. Megaprojects are subject to inevitable reversals and changes in an uncertain world, particularly given the scale and magnitude of the operations involved (Hall, 1980; Hiller, 2000; Flyvbjerg, 2005). In response, actors have learned to navigate uncertainty and change in order to design and manage projects (Rauws & De Roo, 2016; Abujder Ochoa & al., 2025). At the design stage, Midler's (1995) work in management science notably formalised the relationship between project knowledge and the capacity to modify it.

Some of the aforementioned studies also highlight that projects generate shared frames of reference, which enable the alignment and coordination of heterogeneous actors and facilitating collective action in uncertain contexts (Healey 1997; Innes & Booher, 2018). However, such analysis has sometimes given the impression that projects are reified, as if their mere existence were sufficient to produce cohesion and coordination.

Our work challenges this assumption. We argue that coordination and shared frames of reference are progressively produced by actors throughout the project process; they are not given at the beginning. Rather than constituting preconditions for collective action, they should be understood as the (given) project's outcomes. As such, they rely on management and coordination mechanisms deliberately put in place by actors responsible for steering the project.

Within this perspective, temporality emerges as a central dimension of project management in high-uncertainty situations, and is the main focus of our paper. While urban temporalities have been explored in planning scholarship (Abram 2014), far less attention has been paid to the temporalities of urban project management and production. However, project actors operate within heterogeneous and shifting temporal frameworks, and the mere existence of a project is not sufficient to align their temporal horizons for action. This article, therefore, shows how and why managing temporalities is central to both the steering and successful delivery of urban projects. Given this, we have developed a specific methodological approach based on an analytical instrument - the project timeline - which enables us to analyse how temporal coordination is addressed in project management.

To address these issues and to develop our methodology, we examine an extreme case in which temporal dimensions are particularly salient: the Paris 2024 Olympic Games, which we analyse as a large urban project. The project was characterised by extreme uncertainty, while the Olympic event itself cannot tolerate any delay. However, imposing a fixed delivery date - aligned with the opening ceremony - is not sufficient to ensure that actors automatically coordinate their actions, even if they formally share this objective. Under such conditions, project management consists to establish the mechanisms and conditions to coordinate heterogeneous temporalities of action.

Anthropologist Marcel Mauss (2007) introduced the concept of the total social fact, i.e., a fact that in one way or another concerns and mobilises the whole of society, such as the major religious festivals of the Australian Aborigines. It can also be seen to apply particularly to the Olympic Games. Precisely because they are among the most exceptional urban events, we must consider how they are embedded in urban space. It follows, that the games are a particularly relevant case study for our study.

The Paris Games in 2024 marked a revolution in the event's design. The Olympic Committee decided not to create an Olympic park in order to encourage the use of existing facilities and to avoid "white elephants" (Flyvjberg et al. 2024). The major consequence of the same was a large fragmentation of the Olympic project: 36 competition sites, 70 facilities overseen by a state-owned public company – the SOLIDEO -, including the Olympic and Media villages.

The result was a particularly complex project that had to be integrated into the existing city, both during the construction phase and during the event itself, using temporary or ephemeral arrangements. The opening ceremony of the Games illustrated this evolution: it conveyed the symbolic force of the event not through a big architectural gesture, but through the immateriality of a show that transformed the famous monuments of

Paris. The importance attached to environmental and social commitments was also a distinctive feature. In a large-scale traditional urban project, complexity is mainly concentrated in the engineering of the construction of the objects produced; the responsibility of the construction company. In the present case, our findings show that complexity primarily lay in the project's urban planning and organisational dimensions. While drawing extensively on existing knowledge and expertise, this corresponds to a breaking point from previous configurations and marked a new stage of complexity. Furthermore, all of the Olympic venues, tangible and intangible - including competition sites, principal training facilities, fan zones (35 in Seine-Saint-Denis and 26 in Paris), reception areas (villages), and the Olympic torch route have undergone at least some transformation in their design, management, or the role assigned to them within the overall Olympic framework.

Temporalities were at the heart of this project's management. After the games, some observers concluded that their overall and largely uncontested success, particularly regarding facility delivery, was due to the unchangeable deadline and the fact that no one, whether in major corporations, state administration, or local government, wanted to take responsibility for being the bad student. The conclusion drawn was that all major projects should be assigned non-negotiable completion dates enforced through strict constraints. We consider this interpretation to be insufficient, just as we believe that relying on the project's budget importance to explain everything is not enough. Given this, we sought to re-examine this temporal dimension.

In the first part, the article outlines the theoretical and methodological framework of the timeline. In the second part, we analyse how the project's temporalities are managed and coordinated. The conclusion discusses the implications of our approach for understanding urban project management.

1. Theoretical And Methodological Framework For Analysing Temporalities In Urban Project Management

1.1. Filling The Gap In Research On Temporalities Of Urban Project Management

The temporalities of the city have been the subject of extensive research in recent years (Abram 2014; Dobson & Parker, 2024), but this research has mainly focused on the daily functioning of cities and their uses (Wunderlich, 2013; Nemeškal et al., 2020; Gwiazdzinski et al., 2016; Gwiazdzinski, 2022). The temporality of urban production has rarely been addressed. When considered, it is most often approached through professional temporalities (Roy, 2026). If we look at urban projects, we see that English-language literature pays little attention to temporalities of urban project management. In France, as in other countries – particularly Italy, with several major urban theorist figures including Bernardo Secchi – the world of architecture revolves around two approaches to projects. The first, associated with Boudon (2014), focuses on analysing the design process and its relationship with architectural production. The second, which seeks to define the optimal way to build a city, claims the term "urban project" (Tomas, 1995). In France, Christian Devillers and Ariella Masboungi are major figures in this field, alongside a small generation of urban architects, most of whom are now gradually leaving the professional scene. Their works pay little attention to the temporalities of urban project management.

Our approach is more closely aligned with management science research on the project model (Arab, 2004; Bourdin et al. 2024a), even though they don't study urban projects. The founding reference is Christophe Midler's work (1995), whose theory and method (the clinical approach to management) insists on temporalities. In this respect, our perspective is closer to certain strands of management studies (Lundin et al., 2015) than to urban planning approaches. Bent Flyvbjerg & Dan Gardner (2023) also highlight the importance of temporalities in the management of different types of megaprojects, including several Olympic Games projects.

1.2. Forging New Tools

To study the temporalities of urban project management, we sought to capture the collective dimension of the Games' preparation and their legacies and to offer an overview of operations, rather than a fragmented view. To do so, we built a new research tool, the 'timeline', providing a comprehensive, but not simplified, picture of the collective narrative of the preparations for the Paris Olympic Games, as recorded throughout our long-term investigation.

Describing a megaproject is no simple task. Too often, we fall victim to the streetlight syndrome focusing primarily on what is already known, particularly through public statistics. Alternatively, we fall into the trap of Zeno's paradox trap: like Achilles, who could never catch up with the tortoise, we can understand the consequences of processes, but not the processes themselves. A project is at least as much a process as it is content. In urban production, this process is always complex and involves a multitude of actors. It is therefore often much more difficult to describe than in industrial projects. Narrative can, in such instances, appear to be a solution insofar as it presents chains and interactions, allowing, for example, the identification of weak ties (in the sense of Granovetter (1973), and path dependencies (David, 2007).

But the narrative is always that of a speaker. Communication produces 'meta-narratives' which become objects of study rather than analytical tools. The only solution would be to compare the narratives of different actors. This was our starting point; and we sought to improve it. While comparing the narratives of different actors allowed us to reconstruct a history (which is itself an artefact), it also provided us with a wealth of other information that could be incorporated into the analysis of the process; thereby diversifying the possible modes of interpretation.

From that perspective, our timeline of the Paris Olympic project compiled the main events and activities reported by the interviewees, along with technical, legislative, and regulatory documentation and press coverage. This timeline highlights the role of the various actors, their level of involvement, and their interactions.

1.3. A "Grounded Theory" Approach Of The Temporalities

The timeline was designed to build "mid-range theories" (Merton 1957). Based on empirical observation of a specific situation, we constructed theoretical propositions that can be extrapolated to other contexts. Case studies and comparative approaches make this type of theorisation possible. This differs from a strictly monographic approach (as in community studies), which seeks depth of analysis but often has limited capacity for generalisation. Our approach gives primacy to fieldwork. The construction of facts is not treated as a preliminary stage but as a research problem in its own right.

Traditional methodologies - including qualitative ones - often rely on existent literature to define a repertoire of facts and questions that can be mobilised in advance. However, when it comes to studying situations that are uncertain, undergoing rapid change, or cases that have been analysed superficially, such an approach risks falling into the streetlight syndrome. In such cases, we can turn to grounded theory (Glaser & Strauss, 1967), which, despite its age, remains widely used: the aim is to develop medium-range theories by working with the actors involved to construct objects and questions. Here, notions such as Olympic facilities, Olympic projects, legacy, and others are not treated as given data but as problems that need to be transformed into objects, questioning widely used concepts as 'transition', 'adaptation', or "inclusion.

We consider the current situation of urban production particularly conducive to methodological approaches that are compatible with grounded theory. We therefore drew on this perspective to shape our method. Our analysis is based on a series of 62 interviews conducted since 2020 with actors across the entire production system of 'Olympic objects'. We interviewed a wide range of stakeholders, including national and local public authorities, large and small private operators, consulting firms, and architectural agencies. These interviews also involved the main organisers of the Olympic Games: SOLIDEO, the company responsible for coordinating the Olympic works, and Paris 2024, the organising committee for the Olympic and Paralympic Games. It was also the case that, in such a lengthy investigation, the timeline helped us manage the large volume of information and documents collected by requiring us to identify and select key events and actions within the constrained timeframe of the Olympic project.

Beginning with a very open-ended question (e.g., "What do you consider to be the most important developments since our last interview?"), we allowed the actors to construct their own narratives. Most interviews were conducted by several researchers, enabling systematic cross-checking of interpretations — an essential safeguard in a qualitative approach.

Table 1 – Empirical Material Used

Types of structures	**Services/Departments**	**Number of interviews**	**Cumulative time**	**Periods of administration**
Olympic Programme Supervisor (SOLIDEO)	General Management, Innovation and Strategy Department, Programmes Department, Athletes' Village Department, Promotion and Legacy Department, etc.	43	53:45	November 2020– December 2025
Organising Committee for the Olympic and Paralympic Games (Paris 2024)	Venues and Infrastructure Department	6	7:30	January 2021– December 2025
Interministerial Delegation for the Olympic and Paralympic Games and other government departments	DIJOP, Regional and Interdepartmental Directorate for the Environment, Planning and Transport (DRIEAT)	3	3:45	January 2021– December 2025
Local authorities	JOP EPT Plaine Commune Directorate, EPT Paris Terres d'Envol General Directorate, JOP 2024 Delegation Directorate, Departmental Council 93, Head of the Olympic Mission, Greater Paris Metropolis, Chief of Staff to the Mayor of Paris, Head of the Sports and Leisure Department, Departmental Council 93, Head of the Local Sports Department, City of Paris, Deputy Director of Services, City of Saint-Ouen, Director of Commerce, City of Saint-Denis, etc.	23	23	January 2021 - December 2025
Public and private developers and architecture agencies	- Development Department, Plaine Commune Development, Nexity Complex Projects and Competitions Department, CAO Bouygues Project Manager, Environmental Excellence Project Manager, Icade	12	3	January 2021 - December 2025
Other stakeholders	Caisse des Dépôts, Regional Directorate 93&95, Paris Urban Planning Agency (APUR) Directorate	4	5	January 2021 - December 2025

1.4. A Work In Progress Throughout the Investigation

As the investigation progressed, we gradually stabilised the timeline design (codes, figures, representation rules). Initially, we considered it to be somewhat artisanal and, because of this, we first assigned it an experimental status, mainly because of its form and its uses.

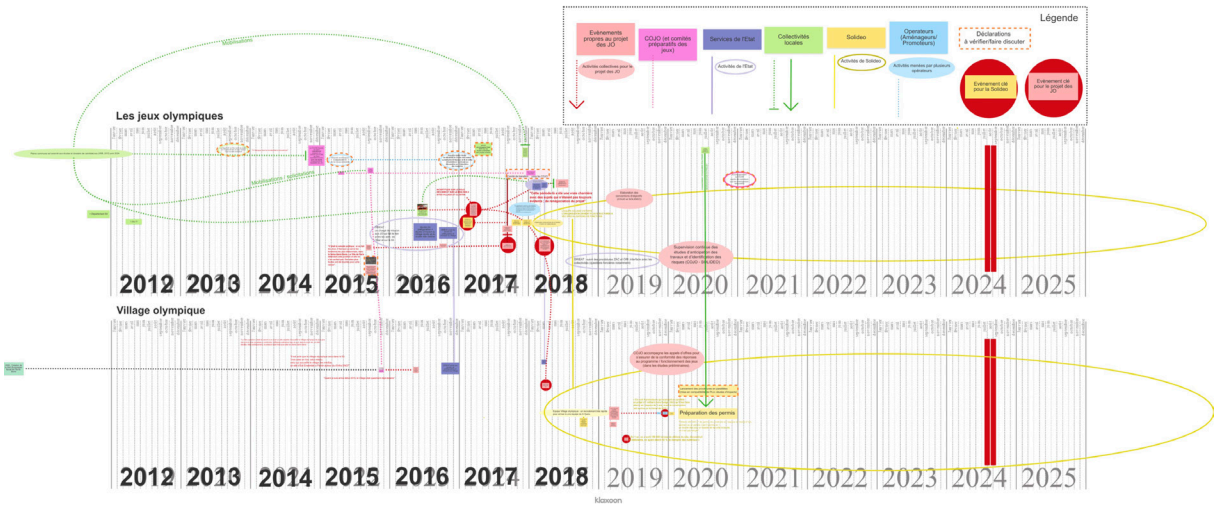

Figure 1. Timeline Under Development, October 2021

> *The timeline was deliberately presented in a rudimentary manner, bearing visible traces of its progressive construction (years added in bold, overlapping arrows, and so on.). Like the Olympic project itself, it was conceived as an evolving process. This first version, developed between December 2020 and June 2021, was intended to support discussion and revision through exchanges with researchers and project stakeholders. It was designed as a tool for constructing the analytical narrative of the Olympic project, a narrative that would be progressively refined and consolidated (Excerpt from the Coubertin Report, October 2021).*

We tested several versions and representations in order to find the most suitable graphic solutions for the different types of information featured on the timeline, such as laws, procedures, news, and organisations. This information covers a wide range of topics, projects, and activities across different scales. The tool, therefore, had to be robust enough to be shared between researchers while also being sufficiently clear to support exchanges with stakeholders. The choice of digital technology proved to be the most complex issue, as we had to rely on generic digital collaboration software rather than software specifically designed for the research. Due to the software's poor ergonomics, stakeholders could not manipulate the tool directly or modify the timeline in real time. As a result, we had to revise and update it after each session.

1.5. How To Read The Timeline

The timeline presented in Figure 5, is the final version. . It is structured into two parts: the overall timeline of the Paris Olympic project (upper section) and the timeline relating to the construction of the Olympic Village (lower section). The information is organised into three categories. Rectangles indicate specific events (e.g., signatures, inaugurations), while ovals represent the activities of the various stakeholders. The different colours identify the different actors involved.

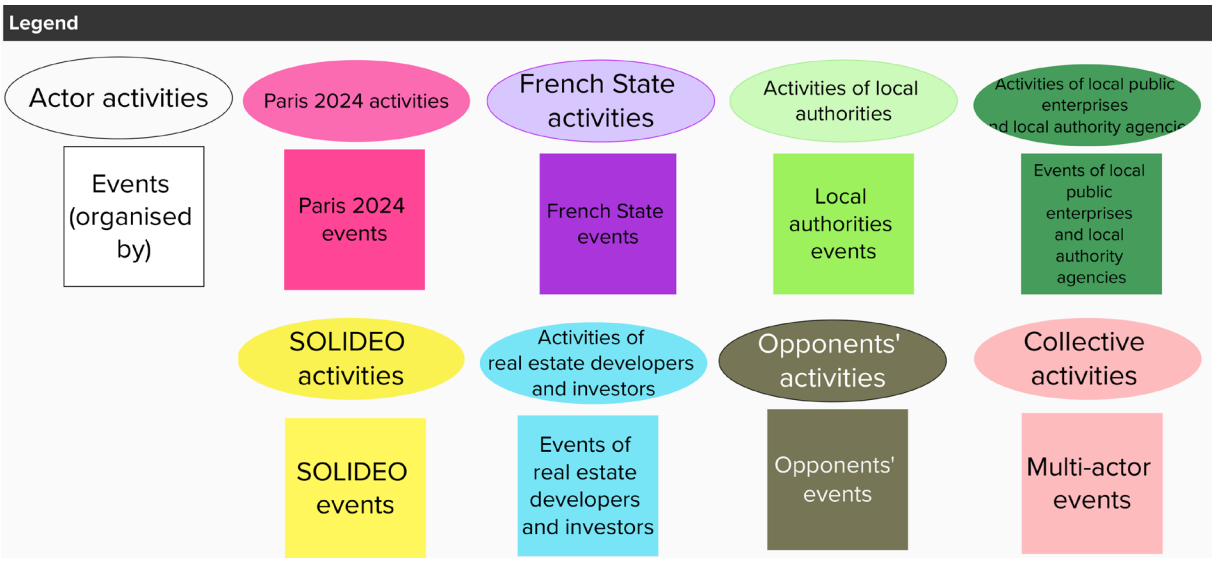

Figure 2. Extract from the timeline legend

Red circles highlight key milestones that triggered action sequences, such as the designation of Paris as the host city (2017) or the adoption of the Olympic Law (2018).

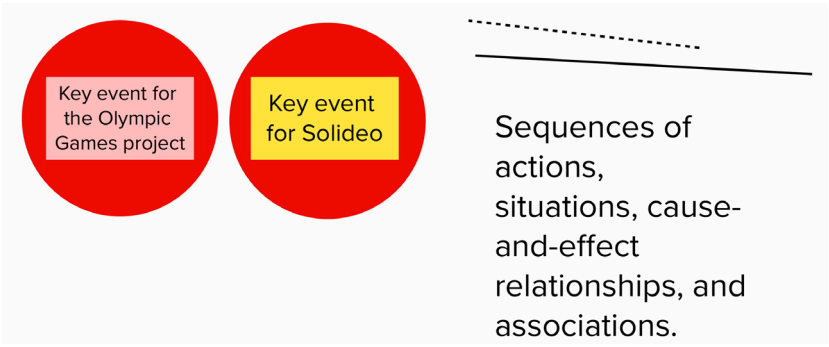

Figure 3. Another excerpt from the timeline legend

Connectors indicate sequences where causal relationships can be established. This was the case in the sequence of land sales, from the launch of the consultation process to the sale to developers.

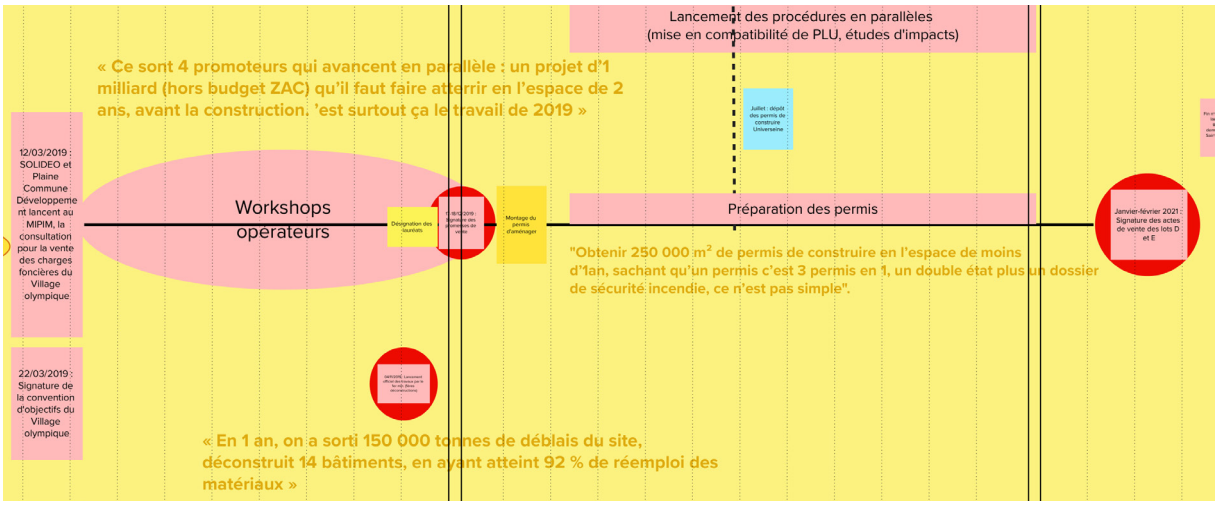

Figure 4. Sequence of plot sales

Finally, the size of labels reflects the duration of actions rather than their importance. This dual timeline can be interpreted in four main ways.

(1) A global reading provides an overview of the Olympic operational system. The two red vertical bars marking the dates of the Games serve as a central reference point for all actors, and functioning as an immovable deadline that structures the entire system. The articulation between the upper and lower sections highlights the links that exist between different scales of action.

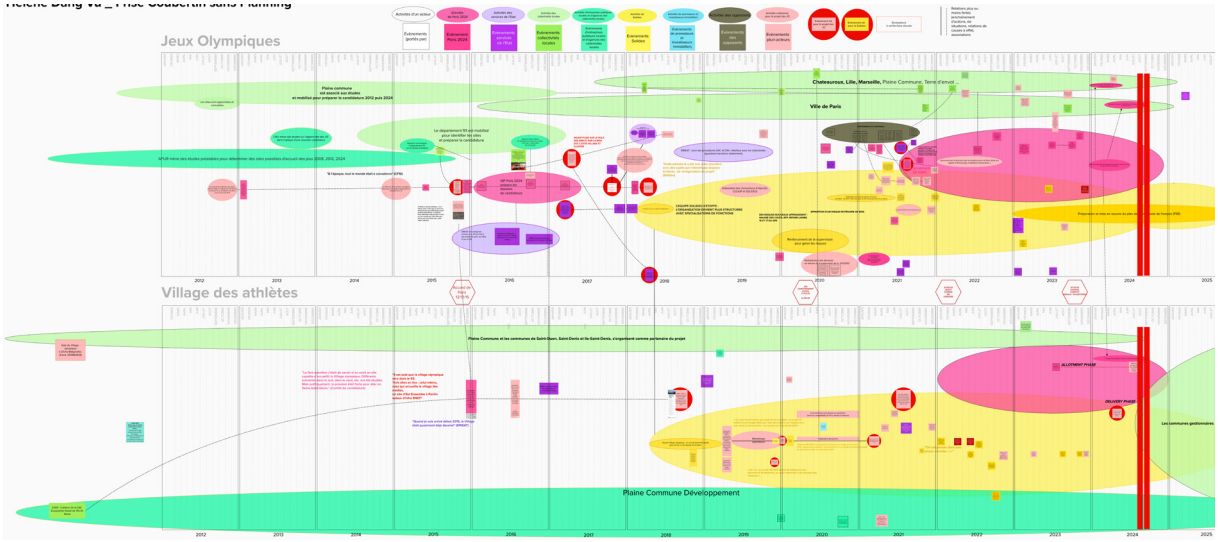

Figure 5. Progress of the calendar, 25-05-20

(2) A horizontal reading allows us to follow the temporal development of projects, actors, and processes, either as linear sequences or as layered dynamics. It highlights continuities, overlaps, and possible dependencies between project trajectories.

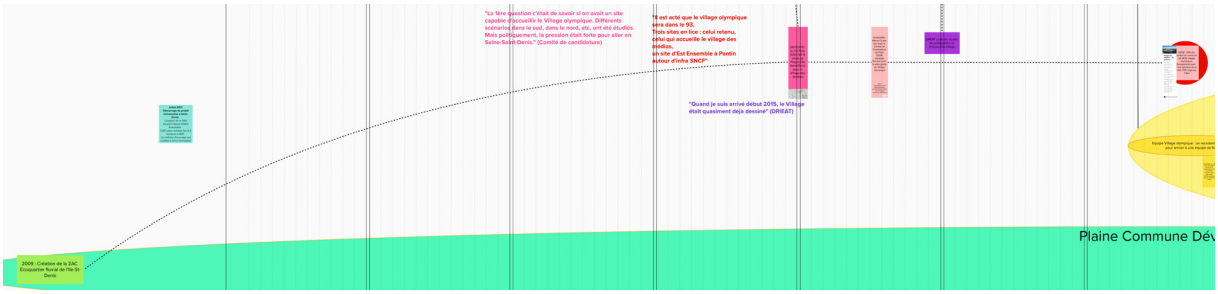

Figure 6. Horizontal reading

(3) A vertical reading captures the simultaneity of actions. By observing the timeline at a given moment, it becomes possible to identify parallel processes and the coordination of multiple action systems operating concurrently. For example, Figure 7 illustrates the deployment of Olympic venues on the Paris 2024 site (a process referred to as 'venueisation') during the last six months of preparations.

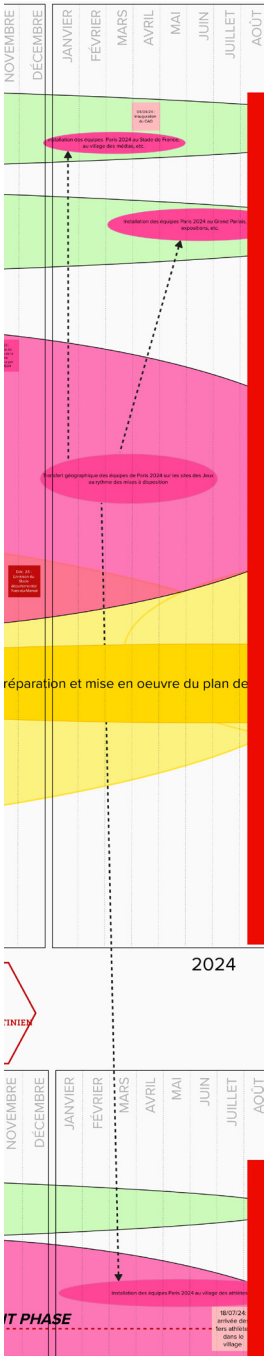

Figure 7. Vertical reading

(4) Finally, nodal reading reveals periods of heightened activity. The timeline is not uniformly dense but structured around moments of intensity, such as the awarding of the Games in 2017, and the acceleration of operations from 2021 onwards. These nodes represent concentrated interactions, decisions, and critical adjustments within the project.

The first node appears around the time that the Games were awarded to Paris in September 2017: this part of the timeline contains numerous action bubbles, some relating to the preparation of the bid and others to

the implementation of the project (drafting of the Olympic law, establishment of governance, selection of the developer consortiums, etc).

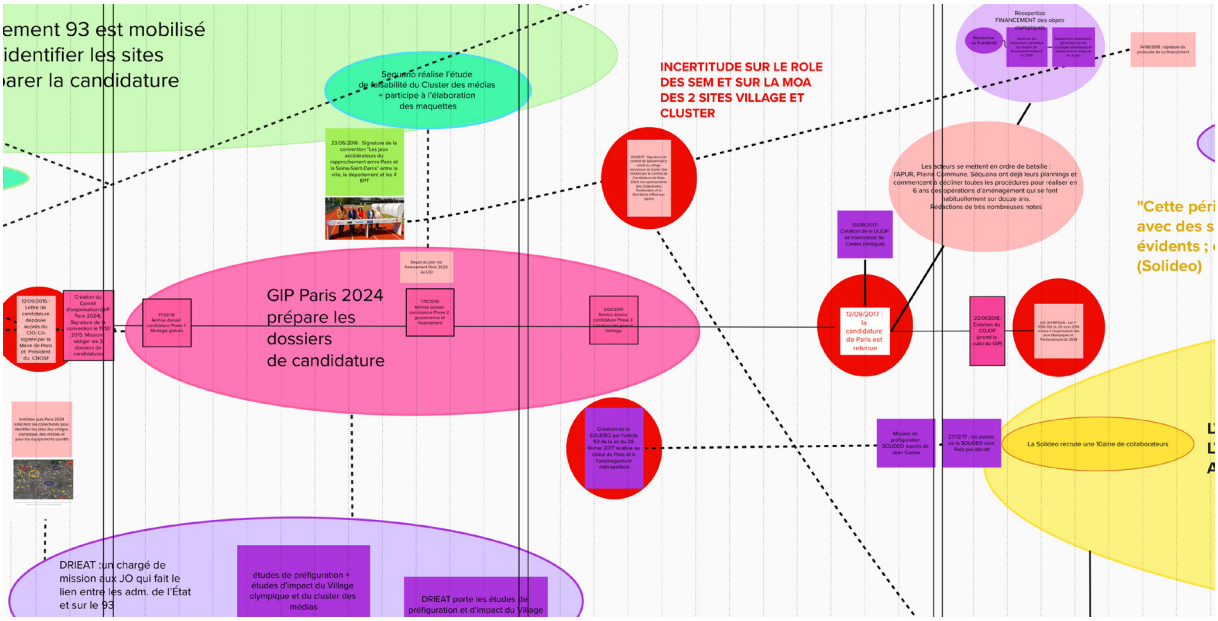

Figure 8. Node 1

A second critical moment emerged in early 2021, with public demonstrations around the Olympic facilities and the launch of the Paris Olympic Games communication campaign, which marked the beginning of broader media coverage of the Games. Although the event itself was still three years away, its realisation was becoming tangible to the public, arousing both hope and controversy. It was also a period of intense activity for operational stakeholders, who were working hard to secure construction sites and, above all, their schedules.

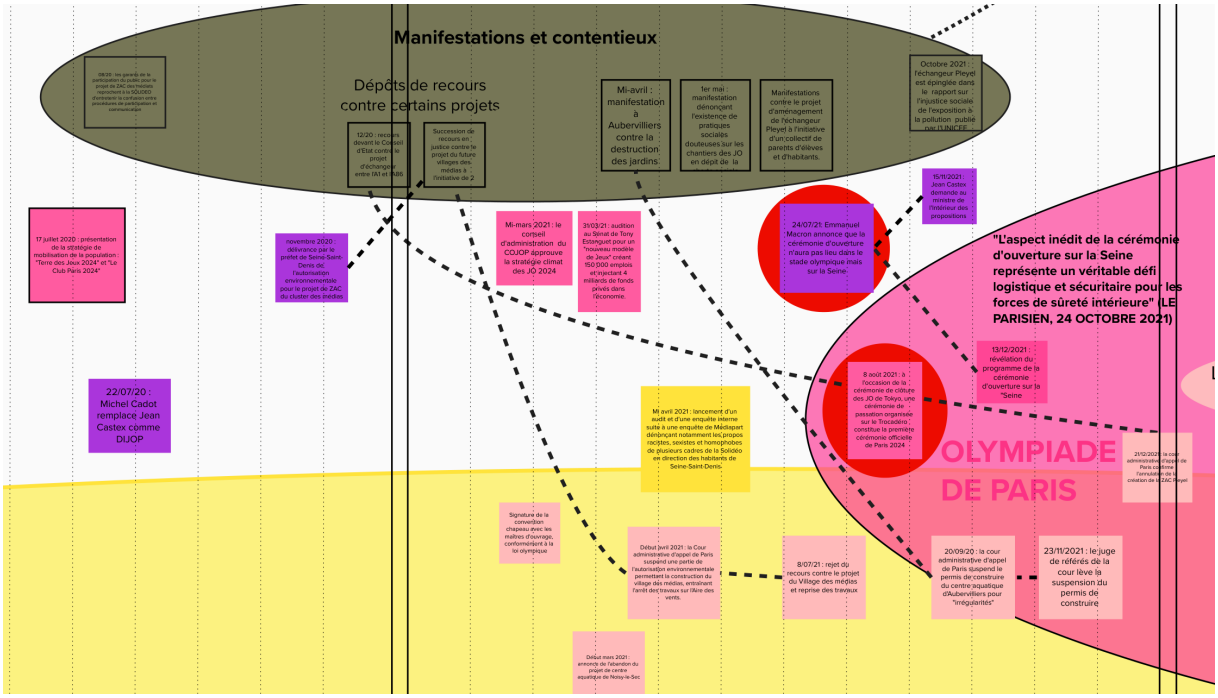

Figure 9. Node 2

2. Results: Managing The Temporalities Of The Project

2.1. The Timeline Highlights The Dynamics Of Action Systems

The timeline achieves two things that conventional analysis of action systems cannot: it shows the position of action systems over time, and it allows discussion of their interdependencies as well as temporal planning.

A Representation Of Action Systems Over Time

Research on action systems (in all fields) generally omits the temporal variable. In contrast, our timeline allows action systems to be situated in time and analysed according to their importance in the project at different periods. Some systems only concern part of a project: they transform or reconfigure themselves as the project progresses, gaining or losing importance. Several action systems can coexist; they can complement and interact with one another or, conversely, oppose one another.

Our timeline highlights the intertwining and overlapping of actions within the same overall project. In particular, there is a clear distinction between the action systems specific to the bid for the Games (before 2017), those relating to the construction of sports infrastructure (from 2018 onwards), and those specific to the event itself (which became more prominent after the Tokyo Games in 2021). These action systems were distinct and succeeded one another over time. They overlapped and were interlinked, but were not necessarily managed by the same actors. For example, the Parisian agency APUR (Atelier Parisien d'Urbanisme), responsible for general and operational studies for the City of Paris, played a central role during the bid phase but diminished in importance during subsequent phases.

There were also relatively autonomous action subsystems that progressed at their own pace, with timetables more or less controlled by the actors steering the project as a whole. For example, there was an action subsystem for each sports facility (the Olympic swimming pool, the renovation of the Stade de France, each gymnasium in the municipalities hosting training sessions, and so on), with one or more project managers at the heart of the action in each case. The "workshops" organised by SOLIDEO with the developers of the "Athletes' Village" constituted a relatively autonomous mechanism within the action system for the production of facilities and infrastructure. They were regular meetings between project owners, architects, and developers over the course of a year, and sought to finalise the architectural plans as well as concluding the sale of building plots by the SOLIDEO to the developers.

SOLIDEO's social responsibility plan provides another example of a quasi-autonomous action system. Implemented according to a schedule linked to negotiations with employees, it enabled the anticipation of staff reduction procedures after the Games. This project, which was carried out in parallel and independently of the production of facilities, nevertheless had a decisive influence on SOLIDEO's strategy for preparing for this transition.

There were also territorial action systems at the level of the Games' host communities: for example, for the City of Paris, where issues of international visibility were significant and where the transformation of public space constituted a major political challenge. Another example was the Plaine Commune, the inter-municipal authority north of Paris where the Athletes' Village was located, which faced the challenge of reorienting the urban development of an area characterised by significant social difficulties. At a more local level, there were also specific action subsystems for infrastructure production in Saint-Ouen, and Saint-Denis; two municipalities within Plaine Commune Territory, where the configurations of action and the associated issues differed significantly.

The complexity of the Olympic project stems from the fact that it brings together systems of action that are at least partially independent and operate on very different territorial scales (Bourdin et al. 2024b). The same actor/s may be central in one subsystem of action while remaining peripheral in other overlapping subsystems. SOLIDEO, for instance, was responsible for delivering permanent facilities but was a secondary actor in the organisation of the event. Similarly, SOLIDEO did not manage all equipment systems; for example,

the Olympic Aquatic Centre was managed by the Métropole du Grand Paris[5], while the Porte de la Chapelle Arena was managed by the City of Paris. However, In the event of delays, SOLIDEO could also have replaced the contracting authorities. In this sense, the challenge for SOLIDEO in the production of sports infrastructure (and similarly for Paris 2024 in the organisation of the Games) was not to do everything itself, but to manage the temporal uncertainties of all the action systems in which it was not the lead agency.

Finally, the timeline illustrates the temporal dynamics of the evolution of the various action systems, indicating their periods of activity and inactivity. For example, the action system for organising the event, mainly led by Paris 2024, grew in importance until the event itself. It then declined very rapidly after the Games, when Paris 2024 was dissolved. Similarly, the workshops, essential at the time as a means of dialogue with developers, ended with the sale of the building plots. Their existence was very limited in time. Likewise, SOLIDEO set up a site management system during the construction phase (Olympic Village site, media cluster, etc.), which was active only when site-specific coordination issues arose. The timeline thus shows that there is no single method for managing project time, but rather several which varied by the timing and specific issues of each phase of the project.

Interdependencies And Temporal Planning Of Action

The timeline also highlights the dynamics of the sequence of actions over time., and thus allows us to address the forms of articulation that may arise between action systems. Indeed, each system of action has its own trajectory, but temporal articulations sometimes exist between them, and the timeline allows us to formulate hypotheses about this. The temporal succession of actions underlies numerous temporal interdependencies. For example, the organisation of events presupposes the delivery of equipment, which means that the system of actions relating to the production of equipment can block the organisation of events, even if the actors involved are broadly different.

Production processes can sometimes be irreversible, due to interdependencies between systems of action (Midler, 1995). For example, a renegotiation of the Games' financial model took place in 2018, following the designation of Paris as the host city for the 2024 Games. This renegotiation, conducted by a small number of actors, took place very quickly; notably through a financial audit. However, its main result was to firmly define the content of the equipment projects and their mode of production, thereby limiting the possibilities of turning back[6].

Peripheral action systems can sometimes play a decisive role at specific moments. For example, the DRIEAT, the State's technical representative, was responsible for the administrative monitoring of urban planning procedures. However, the DRIEAT was not a central player in the project and did not steer many actions. Nevertheless, its role was crucial, since a failure in the administrative monitoring of procedures could have blocked the entire Olympic project. This is one of the major characteristics of the Games: any element can create a problem along the critical path to their realisation, and the project as a whole therefore depends on numerous action subsystems that have nothing to do with the Games themselves.

We also note that the course of the action is punctuated by events, government decisions, court rulings, and the awarding of contracts—all of which are consequences of the action, but also shape it, give it media attention, alter the positions of the actors, and so on. These events may simultaneously involve several action subsystems, thereby linking them together. The timeline also highlights the impact of external events (such as COVID-19 and the war in Ukraine), whose effects, although not immediate, can be considerable.

Finally, the timeline reveals that the project had a highly fragmented organisation, with different systems and subsystems of action. Fragmentations that became even more pronounced when examining the project over

5 The Métropole du Grand Paris is a political body that acts as an urban authority but remains less powerful than the City of Paris.

6 For example, these renegotiations led to the planned 17,000-seat Olympic swimming pool being replaced by the Olympic Aquatics Center, which has a capacity of 5,000 seats, given its limited use after the Games. For the Games, the swimming events were therefore split between two venues: the Aquatics Center (in the north) and the Paris La Défense Arena (in the western part of the Paris region).

time. In this context, the overall management of the project consisted of organising the links between these subsystems of action. To this end, the project managers designed and implemented several specific tools, which we present below.

2.2. Creating A Common Cognitive Framework: A Major Challenge

In such fragmented project organisation, the timeline allows us to better understand the temporal dimension of coordination that exists between action systems, and in particular to characterise the horizontal (the narrative of narratives) and vertical (the situation at a given moment) dimensions of the process. However, it takes little account of one essential element: the significant heterogeneity of the timeframes within which the various actors operate; timeframes that must, nevertheless, converge. This heterogeneity has a considerable influence on the organisation of the system.

Whether we are dealing with industrial projects, major infrastructure projects, or urban projects, we are constantly confronted with a diversity of actors who do not share the same timeframes - ie, the same deadlines and stages -, the same ways of perceiving and measuring the passage of time, or more generally, the same frames of reference. But for event professionals, everything hinges on the smooth running of competitions and ceremonies. Before we prepare, and after, everything is over. While the teams that set up venues are mere spectators on the opening day of an event, for those who produce the event, the opening day is the only moment that truly matters: everyone is constrained by the opening ceremony date, but not in the same way. An event is prepared, organised, and takes place. Once it is over, all that remains is the temporal of the next event (e.g, the next games). It is the event programme that structures the actions of those involved (athletes or otherwise), not what happens afterwards. As a result, the temporality (of professionals) of the event is largely disconnected from reality and insensitive to the territory's temporality. If we accept that temporality is defined by measurements, benchmarks, and objectives, the temporality of the event remains fundamentally structured by 'highlights', whether during the preparation phase or during the Games, with the main competitions and the opening and closing ceremonies. This temporality is more akin to a journey between a series of challenges (Martuccelli, 2015), but the dimension of the flow of time loses some of its structuring character – even if it does not disappear entirely.

The temporality of sport has an international dimension, with major events organised on a global scale. Two main principles – championships and records – strongly structure the flow of time in sport. This system also has national and local dimensions. For the Games, athletes' preparation begins well in advance and influences their personal schedules as well as those of the various competitions. Time constraints apply not only to the Games, but to all sporting events. Sporting temporality is thus largely structured by a calendar in which the Olympic Games serve as the main highlight, alongside many other, less important events. The temporality of the territory – the territories and communities that manage them – is characterised in several ways. First and foremost, it involves ensuring the day-to-day functioning of the territory, dealing with issues such as nuisances, construction logistics, employment, and dialogue with the population. The Games can find their place there, as a source of problems, inconveniences, jobs, or equipment, without necessarily being the centre of attention. The daily life of the territory is also marked by this moment of realisation, that of the 'Olympic celebration'. The aim is to ensure that as many residents as possible feel involved and participate, even if they do not attend the competitions. Hence, the importance of 'Fan Zones', which allow residents (and tourists) to join in the celebrations for free, close to home.

This temporality is also long-term. With regard to the Paris Games, most of the 70 sites concerned (almost all of already existed)[7] had minimal impacts on the development of their territory. However, those built or restored in Seine-Saint-Denis, North of Paris, served as a lever for public policy (for example, by promoting children's swimming) and are part of a local development strategy that began more than 25 years ago and will continue for a long time to come. The temporality of territories is also marked by electoral calendars, which differ from the sporting calendar with its peaks and troughs. The temporality of the project (regarding the construction of facilities) is visible in the chronology. Initially, it is led by governance logic and the intensity

7 One exception is the Adidas Arena at Porte de la Chapelle, designed as a catalyst for transformation in a neighbourhood facing serious difficulties. Outside Paris, Châteauroux, Lille and, above all, Marseille have benefited from new facilities, particularly in the hospitality sector.

of the design phases. As it progresses, it increasingly follows an engineering logic and a risk-management approach, particularly through the development of the capacity to decide at the right moment to activate a "Plan B" for a project that, although not doomed to failure, presents certain risk. Three factors reinforce this complexity: the number of sites, working in a dense urban environment with the logistical constraints of construction sites, and the significant attention paid to the long-term consequences (legacy). Finally, the project's timeframe combines control over sequences with the capacity to anticipate. However, this overview suffices for illustrative purposes. These different timeframes exist elsewhere, but it is rare for them to interact with such intensity and complexity.

Each temporality has its own constraints, and although imperfect, they remain significant. Even in large urban projects, such diversity is unusual: certain temporalities dominate, and they are rarely heterogeneous. In particular, an event's temporality is rarely present, notably because of the importance attached to the opening date of the given event. At the same time, sporting constraints apply globally to all Olympic disciplines (which is exceptional), while regional constraints are complicated by the multiplicity of venues, and so on. In short, everyone is subject to the constraints of the Games' dates, but without a common cognitive framework. Hence, the importance of a coordination model that is capable of articulating these different timeframes and integrating them, at least partially, into a shared temporal framework.

2.3. Strengthened Instruments To Structure The Common Cognitive Framework

This coordination model relies on instruments that, for the most part, are not original and are commonly used in large-scale projects, but whose intensity is significantly greater. Indeed, the objective is not merely to establish coordination processes or standards, but to construct a common cognitive framework- a shared vision - including, in particular, a shared timeframe that goes well beyond the alignment mechanisms mentioned above. In other words, the different stages involved make the project's organisation more abstract, in contrast to the usual management of a construction site or even a megaproject, with its inherent uncertainties. The following examples provide an overview of the mechanisms that structure this common cognitive framework.

The first set of instruments are intended to mitigate risks that could compromise the delivery of Olympic facilities within the allotted time frame. This was the objective of the 'supervision' mechanism implemented by SOLIDEO to monitor the construction of permanent facilities and to integrate risk management into the production of Olympic facilities. This system was based on 'target agreements' signed with each project owner. Concluded between 2018 and 2021, these agreements defined the objectives to be achieved by the facility manager and stipulated that compliance with these targets, particularly regarding cost and schedule control, was a condition for the release of SOLIDEO funds.

"Project reviews" were also introduced to enable SOLIDEO to monitor programme progress. The aim was to identify discrepancies between the project's progress and the initial programme and to define corrective actions: either an action plan to return to the initial programme trajectory, or an alternative solution in the event of irrecoverable delays. These reviews could also include a forward-looking dimension, particularly in the event of legal risks.

Paris 2024 also developed a set of instruments which were designed to prevent risks that could have jeopardised the success of the Games. Some of these tools were designed to manage the tensions that arose between the time constraints faced by Paris 2024 and economic markets. This tension first became apparent in late 2021 and early 2022, with the launch of the tendering process for preparing the competition venues. The selection of candidate companies was partly guided by the desire to minimise the risk of default shortly before the opening ceremony. Given the scale of the Games, organisers anticipated potential market saturation and the absence of fallback solutions in certain sectors.

This desire was reflected in several practices that were implemented by Paris 2024 when awarding contracts for the Games: collecting advance information on candidates to assess their capacity to absorb increased workloads; distributing contracts between several service providers to spread risk; and favouring proposals which offered the strongest guarantees of meeting the schedule, even when competing bids were cheaper.

A second category of instruments aimed to optimise the duration of interventions contributing to the preparation of the Games and to generate time savings. These included adapting legal frameworks. The desire to act quickly was evident in the law of 26 March 2018, known as the Olympic Law, which includes various measures designed to accelerate development projects such as: adapting the rules on public information and participation (shorter consultation periods and the use of electronic public consultations); and creating a "dual status" permit which sought to reduce the time taken to process building permits. These changes were implemented by accelerating administrative procedures, particularly at the prefectural level.

Another tool that was used to save time in preparing for the Games was the use of internal organisational structures. This was the objective of the restructuring carried out by Paris 2024 approximately eighteen months before the opening ceremony; shifting from a functional organisation to a site-based organisation (venues), followed by the geographical transfer of teams to the sites once the facilities were available. This reorganisation, which coincided with a change in the departments' activities – from the launch of contracts to the operational configuration of the sites for the Games –sought to optimise time management by simplifying coordination and risk managements).

The local host authorities also set up specific bodies to ensure the success of the Games in their territory. These included the Directorate-General for the Olympic and Paralympic Games which was created by the City of Paris, and the JOP Mission which was set up by Plaine Commune EPT. These relatively small units were positioned above departmental structures, and aimed to streamline decision-making processes while maintaining internal administrative balances. For example, they set up ad hoc committees to involve the departments concerned with the project in the decision-making process, without replacing them. This example illustrates the advantages of comitology, which was widely used in the organisation of the Paris Games as a mode of governance to promote consensus and coordination[8].

Controlling the schedules and timetables of service providers was another lever identified that generated time savings. In most cases, the Games organisers used this method to address the problem of desynchronisation between the project stakeholders. For instance, during the 2022 tendering phase, certain contracts were postponed when requirements were too uncertain, and during the implementation phase, the identification – or anticipation – of a delay in the work could lead to temporary collaboration with the project owner. Early delivery may also be justified when the works include additional infrastructure, such as the International Broadcasting Centre, which the Games' TV producer, Olympic Broadcasting Services (OBS), needed to take possession of early enough to finalise its layout (the addition of extra studios, and so on).

In some cases, the control of schedules reflected the organisers' desire to save time by optimising the organisation of the service providers' work. This partly explains SOLIDEO's decision to structure the consultation process for the marketing of the Olympic Village's land charges as a workshop. Conducted over several months in 2019, this consultation enabled the programme to be laid out in record time and move into the pre-operational phase without delay. The organisation of service providers' schedules was also a valuable tool for Paris 2024 when it came to maintaining a high pace of production; both for the teams deployed on site (through reverse planning and countdown tools) and for the functional departments responsible for coordinating the service providers working on all the Olympic facilities. In addition to their other uses, these tools were designed to remove the various players from their own time frames and place them in a common time frame or cognitive framework. While these instruments were not new in themselves, their combination and intensity in this context were distinctive.

8 Comitology aims to prevent disagreements from delaying project implementation by maintaining relationships between participants. The SOLIDEO programme committee illustrates this: it reviews requests for changes and fosters buy-in, while in practice limiting modifications to preserve the initial plan and deadlines.

Conclusion

The analysis presented here focuses on the temporal dynamics of the Olympic programme. Therefore, our attention has been directed less towards material outputs and more towards the organisational forms and instruments developed by the actors, particularly SOLIDEO, as the general supervisor of operations. By looking at the Olympic programme for the Paris Games as a constellation of interdependent projects operating according to a non-negotiable timetable, we have shifted the analytical perspective. The project - here understood as a programme - is no longer analysed as a defined space, but as a configuration of multi-level systems of action, held together by specific coordination mechanisms and shared time frames. What is particularly striking in the case of the Paris Olympic programme is that, unlike the pathologies identified by Hall (1980) in large-scale development projects, there are very few discrepancies between intentions, progress and implementation. The few programme changes were tightly controlled, resulting in what could be described as "managed slippages". This article has sought to explain how uncertainty and misalignment were contained and managed, even though they are not anomalies but rather constituent characteristics of complex urban projects (Flyvbjerg, 2023).

Our research first demonstrated the importance of continuously producing common frames of reference across fragmented actor worlds (Healey, 1997). Although the programme proved relatively stable - even though some authors emphasise the importance of programme adaptability (Ramirez-Cobo and Zepf, 2018) - this was partly because it was stabilised by repeated interactions, deliberative mechanisms, and negotiated routines. The key issue was not the optimisation of a predefined design, but the ability to absorb uncertainty, organise interdependencies and maintain compatible trajectories over time. In other words, control was not exercised over the content of the project, but over the conditions for its temporal coordination. Here, coordination was made possible by repeated negotiation sessions - from the preliminary workshops organised by the promoters to the dense comitology and systematic reporting system throughout the production period. These mechanisms allowed actors to test, stabilise and revise common temporal assumptions, thus enabling collective action in contexts where authority was dispersed, and where Olympic objectives do not serve the same horizons for everyone. Such observations and understanding led to conceptualising the urban project as a temporal coordination mechanism, which consider that the determining characteristic of the project is neither its scale, nor its form, nor even its ambition, but its ability to organise heterogeneous temporalities — political, technical, financial, regulatory, event-related — within a common horizon of action.

From this perspective, the Paris 2024 Olympic programme is not an exceptional or abnormal case. The management of co-temporalities is, in fact, a problem inherent in the system of producing complex projects. With this in mind, we can assume that as urban action systems tend to multiply and interdependencies intensify (Abudjer Ochoa, 2025), the ability to build and maintain shared temporal reference systems could become one of the core skills of urban project developers. This suggests that the successful implementation of an urban project depends largely on stakeholders' ability to build a system to coordinate the multiple timescales of urban action.

For the Paris Games, the works supervisor ensured that this system of temporal alignment was in place. However, one question remains: was this the only reason for the project›s success? As we understand from the survey, what was coordinated here was not only the action itself, but also the meaning given to that action. Belief systems and urban imaginaries undeniably played a role in aligning the temporal representations, priorities and horizons of the actors involved. From the moment the event was secured, it established itself as a meta-event (Hiller, 2000) with a symbolic significance that far exceeded the mere completion of the Olympic facilities. The stakeholders, therefore, did not just coordinate around a schedule and operational objectives: they were also caught up in a regime of symbolic legitimation (Suchman, 1995) which helped to make the programme both desirable and, ultimately, relatively uncontested. In line with Healey's work on shared meanings (1997), we understand the importance of actors' adherence to the values of Olympism in this alignment. The promise of global hyper-media coverage and the narrative of 'legacy' functioned as normative references that stabilised the action. These symbolic registers - from the 'Olympic truce' to the torch relay - constituted a form of mobilising mythology (Flyvbjerg, 2023), which acted as a political and moral resource to legitimise the commitment of the territories and maintain the alignment of actors over time. They produced what could be described as the symbolic surplus of the project: the Games were not just a development programme, but a higher cause that reconfigured local priorities and reinforced collective temporal discipline.

In this sense, these belief systems contributed to governance through adherence (Innes and Booher, 2018), reducing resistance, facilitating cooperation, and helping to stabilise the timelines of the Olympic programme. The collaborative rationality observed in the organisation of the Paris Games thus confirms that, in complex urban projects, it cannot be reduced to either technical efficiency or formal hierarchy (Innes and Booher, 2018). So, what was the recipe for success for the Paris Games? A great deal of engineering, and a pinch of magic, enabled all stakeholders to align to a shared project timeline.

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